BLUE JAY

December 2015

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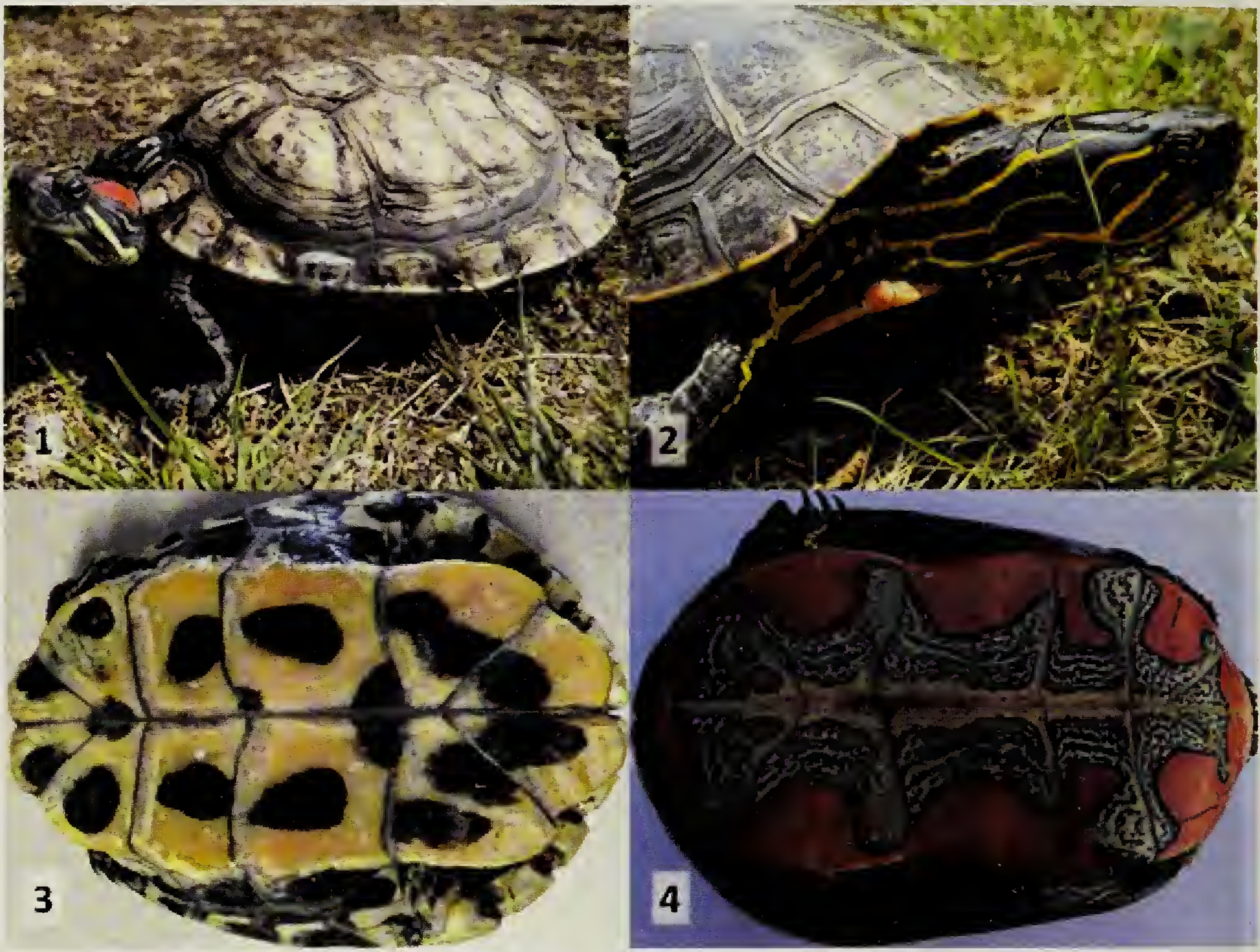
Front Cover: Eared Grebes (Adult and Young) *Sidewood, SK (Canada), July 2012.* *- Photograph © William Burt*
*Note: Used by permission from the book **Water Babies – The Hidden Lives of Baby Wetland Birds**, by William Burt (The Countryman Press, 2015). See page 198 for book review.*
Back Cover: *Green Lacewing* - Chrysopa chi *- Harvey Schmidt*



Red-eared slider 1,3 versus Western painted turtle 2,4 *see note page 186*

Painted Bunting *- Doug Dance*

Blue Jay

Vol. 73 No. 4 December 2015 153 - 220

Editor's Note

Kerry Hecker, Lowell Strauss 154

Birds

THREE OBSERVATIONS OF COLOUR BANDED SHOREBIRDS
Dale G Hjertaas, Paule Hjertaas 155

ADDITIONS TO THE MANITOBA BIRD LIST (2008 -2014)
Rudolf F. Koes 159

Plant Communities

OBSERVATIONS OF HIGH QUALITY EASTERN DECIDUOUS RIPARIAN SITES IN SOUTHEAST MANITOBA'S WHITEMOUTH RIVER WATERSHED
Jonathan Kornelsen and Cary Hamel 168

Notes and Letters

CEDAR WAXWINGS WITH ORANGE TAIL TIPS
Ross Dickson 183

OBSERVATION OF A BROWN THRASHER NEST (TOXOSTOMA RUFUM) ON STATIONARY FARM EQUIPMENT
Jamie Rothenburger and Tex Rothenburger 184

SIGHTINGS OF NON-NATIVE RED-EARED SLIDERS IN WASCANA MARSH, REGINA, SASKATCHEWAN
Kelsey A. Marchand, Christopher M. Somers, and Ray G.Poulin 186

HOW FARLEY MOWAT CHANGED MY LIFE
Stuart C. Houston 188

Corrigendum 197

Book Review

WATER BABIES - REVIEW
Philip S. Taylor 198

Mushroom Series

RESPECT, DON'T RIDICULE, THE RUSSULAS
Chris Hay 200

Mystery Photo 204

Index to Volume 73

Brenda Dale 206

EDITOR'S NOTE:

At the beginning of 2016, we are, as always, filled with eager anticipation for the upcoming year and all it may hold. Many changes are coming for Blue Jay!

First of all, Blue Jay is having a dramatic make-over. The current format, size, and shape, has been in place since 1951. Nature Saskatchewan is sponsoring this make-over to refresh, update, and style Blue Jay to be more appealing to you, the members of Nature Saskatchewan. Please rest assured, the natural history papers and notes will remain a substantial component of this magazine. The publication will be available in print form and as an electronic version.

Another change, happening simultaneously, is a change of editors. We (Lowell Strauss and Kerry Hecker) have been editors for four years, starting in March 2012. We have greatly enjoyed the journey of learning publishing, editing, and layout skills. Perhaps best of all, we have been able to interact with a wide variety of NS members and members of the general nature-loving public. We have certainly enjoyed learning about the strange and wonderful happenings in the prairies and working with you to prepare them for publication. Thanks to everyone who submitted photos, notes and papers for publication in Blue Jay!

Looking back at the past year, we would like to say "thank you" to a number of individuals. We sincerely appreciate the assistance from our associate editors and others who make this journal an excellent contribution to the natural history literature in the northern prairies of North America. Particularly, Dr. Mark Brigham, Dr. Vern Harms, Dr. Carol Scott, Dr. Joseph Schmutz, Ross Dickson, Al Smith.

Brenda Dale has ably assisted this year with compiling the index – a meticulous and detailed task. We thank her for her assistance and dedication. Chris Hay has been our educator in the last year, writing articles about the mystery and majesty of fungi. Dr. Spencer Sealy has been generous with his time and talents, by writing answers for some of our mystery photos, giving full details and context for what we are seeing.

We will be handing off our editorial duties to Annie McLeod. She is educated as a journalist, and has an excellent set of skills for managing Blue Jay into its new format. Please continue to contact her through the Blue Jay email *bluejay@naturesask.ca*. We look forward to working with Annie through this transition period.

So here's to a new year, a new look for Blue Jay, and a new set of observations of our delightful natural history in Saskatchewan and the prairie provinces!

- Kerry Hecker and Lowell Strauss

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BIRDS

THREE OBSERVATIONS OF COLOUR BANDED SHOREBIRDS

DALE G HJERTAAS AND PAULE HJERTAAS
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It is always exciting to watch shorebirds, but the chance to see a colour banded one and find out something of its history adds a special element to the experience. We have had the good fortune to observe a Hudsonian Godwit, a Pectoral Sandpiper and a Piping Plover carrying colour bands.

On May 12, 2013 we drove about 10 miles along grid 641 and other roads south of Pense, Saskatchewan looking for birds on wet fields. We observed a few shore birds including 5 Pectoral Sandpipers, one of which was banded. Through our binoculars we recorded the following bands: left leg – aluminum below knee and green flag with white above it, above knee; right leg - 2 yellow bands above foot. Back home, after looking at photos, we realized we had missed a band through binoculars and the actual bands were: Left leg – white, green with flag above knee, aluminum below knee; Right leg – white above two yellow, all below knee. The bird was observed 11:20h about 10 miles south of Pense.

Tracking this bird's origins took more time. The Bird Banding Laboratory apparently did not have the colour banding records as we received no information from them. However, thanks to the work of Jeannine M Parvin, Database Administrator at www.bandedbirds.org (email dated March 23, 2015) we learned that the Pectoral Sandpiper was a male and was banded on June 3, 2008 in the vicinity of Barrow Alaska (71.32 latitude, 156.67 longitude). This is near the northern tip of Alaska. She also advised that the band we reported as white on the right leg was light blue, or at least had been when it was placed on the bird. Reading band colours can be tricky!

Straight line distance from Barrow to where we observed the bird is 3,470 km. Pectoral Sandpipers winter in South America, generally from Peru, S Bolivia, S Brazil, N Argentina, and Uruguay south to central Chile and southernmost Argentina.[1] The straight line distance from our observation to Lima Peru is 7,400 km. So this Pectoral Sandpiper would have a one way migration of more than 10,800 km. When we saw it, this little sandpiper had migrated south at least 6 times and was on at least its 6th trip north, meaning it would have flown a total of at least 126,000 km during migrations up to the time we saw it. Thinking of the energy burned to fly that far certainly gives a new appreciation for why shorebirds always seem to be feeding feverishly.

In June 2014 Paule observed a colour banded Piping Plover at Chaplin Lake. The red flag indicated that this bird was banded at Corpus Christ Texas in 2011 (email from David Nedstead, June 18, 2014). Straight line distance from Chaplin to Corpus Christi is 2,630 km. This Piping Plover would have made the 5200 km. round trip migration a minimum of 4 times when Paule observed it.

On July 19, 2015 we were taking the Shorebird Tour offered by the Chaplin Nature Centre. On a wetland connected to the south part of the lake along #58 Highway, we observed godwits actively feeding in the wetland and occasionally flying up and then returning. Small flocks joined the original group until there were 28 Hudsonian Godwits and 61 Marbled Godwits. While observing and taking photographs we noticed that one Hudsonian Godwit was banded with a green flag labelled 1PM. As far as we could see it was the only banded bird in the flock.

We reported the observation to the Bird Banding Laboratory and were advised the Hudsonian Godwit had been banded on May 16, 2012, in Alaska at 61.25 latitude and 150.75 longitude. It was at least a year old when banded.

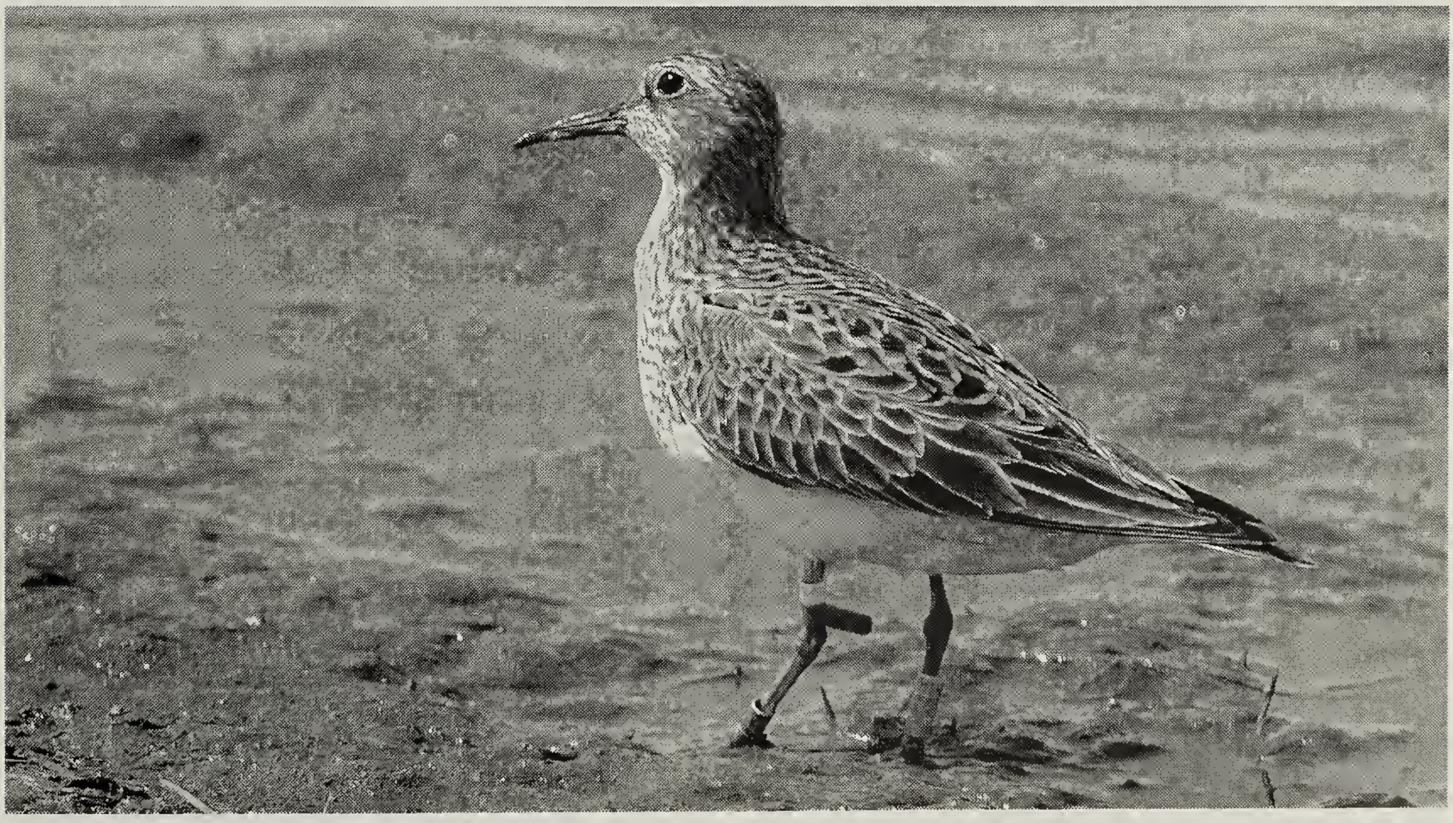
We soon heard from Garrett MacDonald (email August 11, 2015) who is involved in this ongoing study. He reported that “Female 1PM is part of a breeding population of Hudsonian Godwits that nests in the spruce bogs at Beluga, Alaska, a small, remote community about 45 miles southwest of Anchorage, Alaska on West Cook Inlet. Godwit research at Beluga was initiated in 2009 and has continued every season except for 2013.” He added “There are approximately 30 breeding pairs of godwits in Beluga and the majority of breeding adults are banded and flagged (green flags with white engraved alpha-numeric codes either 2 or 3 digits long). 1PM was first banded as an adult in 2012 and has nested in Beluga every year since then (but researchers weren't there in

2013). We know that she hatched chicks successfully in 2012, 2014, and 2015. We didn't find her nest this year but she was seen on our plot defending chicks on multiple occasions."

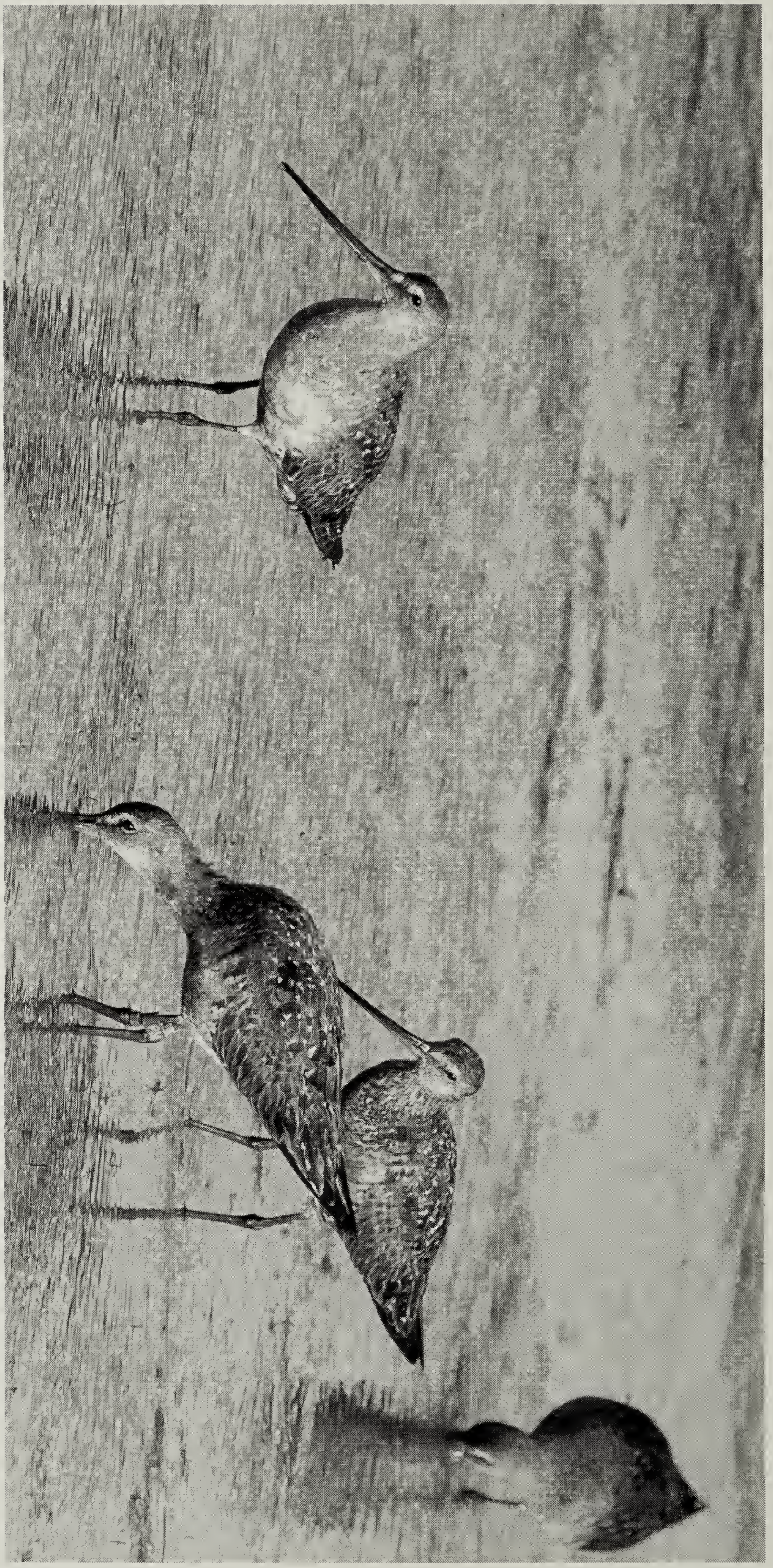
He also advised us that previous research with geolocators had shown most Hudsonian Godwits leaving their study site stopped in Saskatchewan for several weeks before continuing south. The flight from the Beluga study site to Saskatchewan is usually nonstop, which is 2,947 km if they followed a straight line to Chaplin. The study team think the Hudsonian Godwits moult during their fall stop in Saskatchewan and, of course, put on fat for the next part of the journey. That really emphasizes the importance of Chaplin Lake to these Hudsonian Godwits.

Mr. MacDonald also advised that most of the Hudsonian Godwits from their study winter on Chiloé Island, Chile, South America (-42.4 latitude, -73.9 longitude) which is 10,780 km from Chaplin. In the spring they fly nonstop from Chiloé Island to the great plains of the United States. Hudsonian Godwits are clearly mighty flyers. Even if they flew in straight lines from Alaska to Chaplin and from Chaplin to Chiloé Island, that is a 13,000 km migration route one way.

1. Farmer A, Holmes RT and Pitelka FA (2013) Pectoral Sandpiper (*Calidris melanotos*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu.bnaproxy.birds.cornell.edu/bna/species/348



Banded Pectoral Sandpiper *- Paula Hjertaas*



Banded Hudsonian Godwit - *Paula Hjertaas*

ADDITIONS TO THE MANITOBA BIRD LIST (2008 -2014)

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It is nine years since a list of bird species newly recorded in the province of Manitoba was last published in *Blue Jay*.[1] Various projects, including the completion of field work for the forthcoming *Manitoba Breeding Bird Atlas,* have taken precedence for members of the Manitoba Ornithological Records Committee (MORC) during the intervening years. MORC is the group that evaluates the validity of reports of extremely rare birds, including potential new species for the province, and currently consists of Christian Artuso, Andy Courcelles, Rudolf Koes and Peter Taylor. Accepted (or confirmed) species are those for which evidence exists in the form of a specimen, diagnostic photograph or sound recording, or for a sighting by two or more competent observers for which a convincing written report exists. Unconfirmed records are those that involve well-described sightings by a single, experienced observer. All other records are deemed hypothetical.

Below we provide a list of nine species newly accepted to the official provincial list by MORC in March 2015. Of these nine species, five were first reported after 2007 and three were previously considered hypothetical. This brings the total list of accepted species for Manitoba to 397. One species has since been added to the hypothetical list. I would welcome information about any missing, incomplete or incorrect information in this list.

Accepted species:

Tufted Duck. A male was photographed on 27 April 2008 on the Red River between Selkirk and Breezy Point by Nia Massey.[2] No other observers saw this bird. There are two hypothetical records, which lack details: a male was seen near Flin Flon on 19 May 2004 (*fide* B. Schmidt)[3] and two males were reportedly seen on the Red River in Winnipeg on or about 19 May 2008, but no other details are known (*fide* Paula Grieef). Tufted Duck is a Eurasian species that regularly shows up in small numbers in North America, primarily on the east and west coasts, with smaller numbers on the Great Lakes. Elsewhere it is extremely rare in North America.[4]

Swallow-tailed Kite. Although there are several Manitoban records for Swallow-tailed Kite

Tufted Duck - 23 April 2008 - Breezy Point area *- Nia Massey*

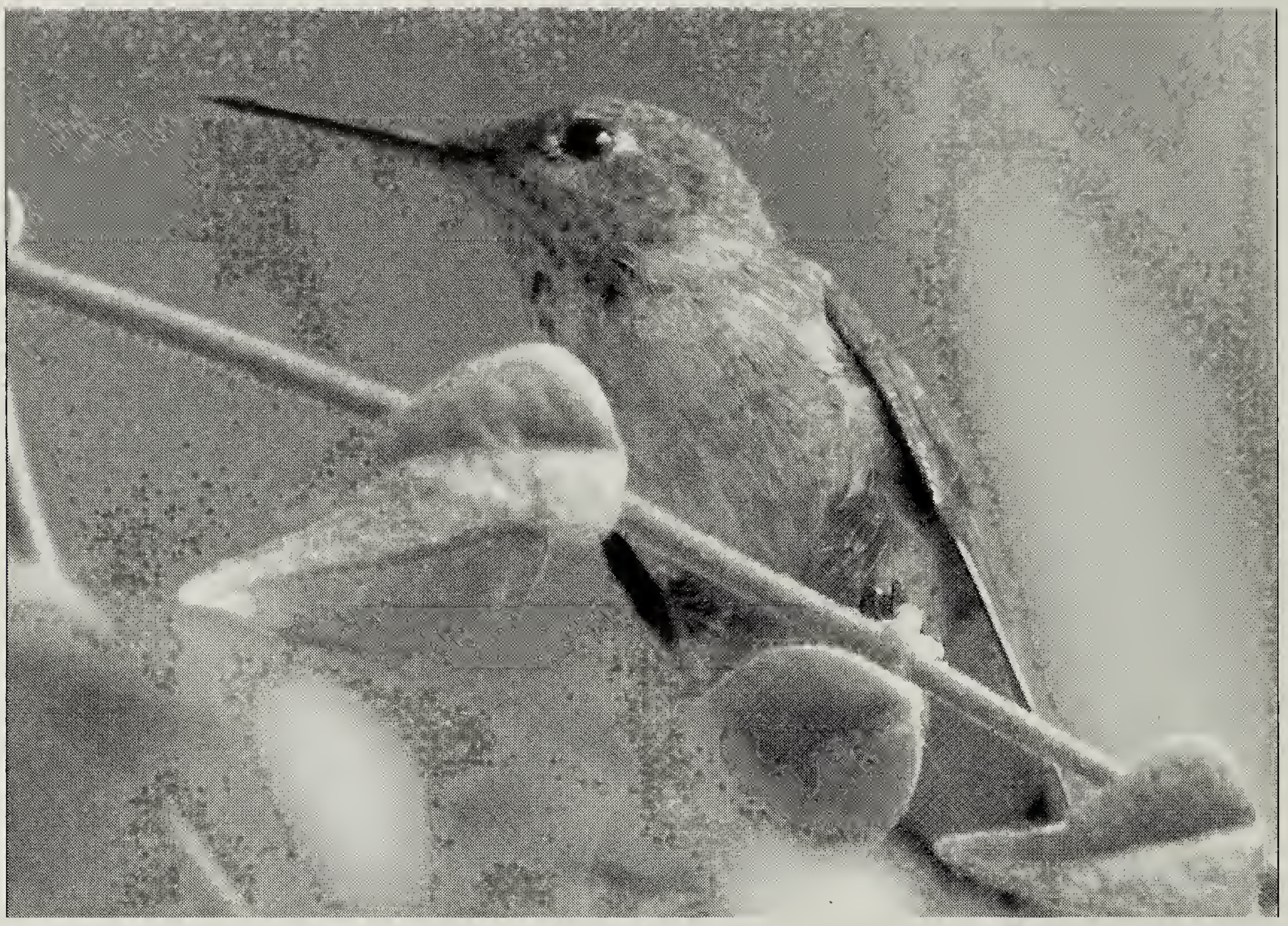
Mississippi Kite - 31 July 2014 - Winnipeg *- Michael Loyd* dating back to the late 1800s and early 1900s, the details are minimal and two specimens (apparently shot in 1889 and 1892) have been lost.[5, 6] An individual seen cruising over a Winnipeg park for about an hour on 22 May 2014 therefore represents the first confirmed record for the province.[7] The bird was seen by several flag football players, their coaches and parents.[8] Although no experienced observers were involved, a rare bird report submitted to MORC by Kyle Kushnier leaves no doubt about the veracity of this record.

Mississippi Kite. From late July to mid-August 2014, a pair of Mississippi Kites established a territory in a well-wooded residential area of Winnipeg. Initially spotted 18 July by Michael Lloyd, but not identified until 27 July, the birds attracted a great deal of attention from birders and local media when a nest was located.[9] It contained one young, which unfortunately fell to the ground when both parents landed simultaneously on the nest, on 8 August. The parents then abandoned the nest and the young was taken in for rehabilitation (Artuso and Koes).[10] This represents the first known breeding record for this species in Canada. It is undergoing a substantial range expansion in the United States.[10]

Calliope Hummingbird. A hummingbird which was first observed at the Selkirk, MB feeder of June Minish around 21 October 2013 was photographed by Gerald Machnee on 25 October. The bird was initially believed to be a Ruby-throated Hummingbird, but closer inspection of the images, which were circulated on the Internet, convinced Christian Artuso that it might be a Calliope Hummingbird. It was subsequently identified as such and seen and photographed by many. With colder weather approaching it was captured on 10 November for rehabilitation, but unfortunately did not survive.[11] The breeding range of this species extends north to the mountains of British Columbia and Alberta; in Saskatchewan it is accidental.[12]

Black-throated Gray Warbler. A male Black-throated Gray Warbler visited the Winnipeg garden of Richard Staniforth, and vicinity, on 21 and 22 May 2008. It was seen and photographed by many.[13] Considering how frequently this western species has wandered east in the past, with numerous records along the Eastern Seaboard and in virtually all provinces and states, the species is long-overdue to be added to the official list for Manitoba.[4]

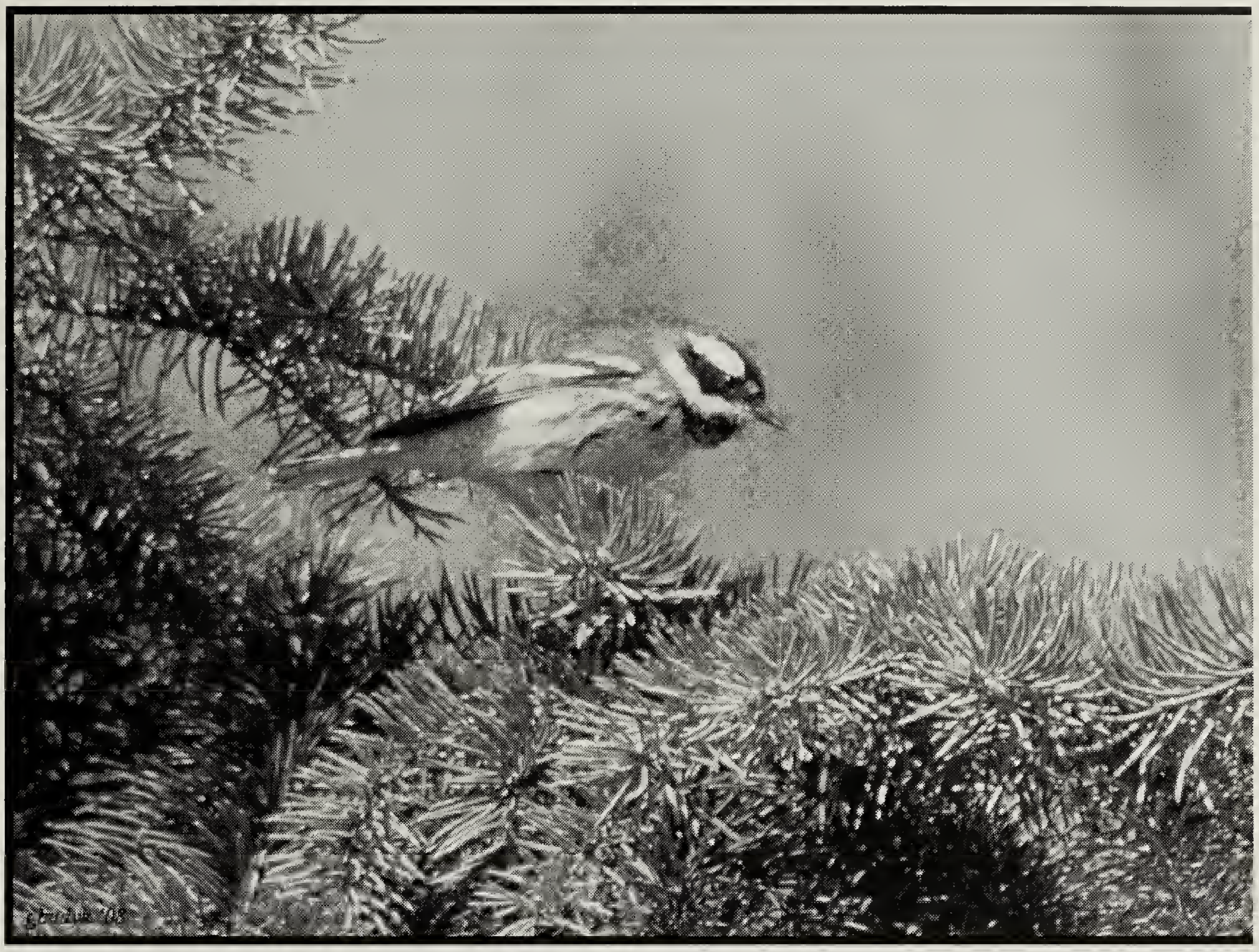
A second record came on 17 May 2009, when a bird was seen at St. Ambroise by Gord and Jaye Grieef.[14]



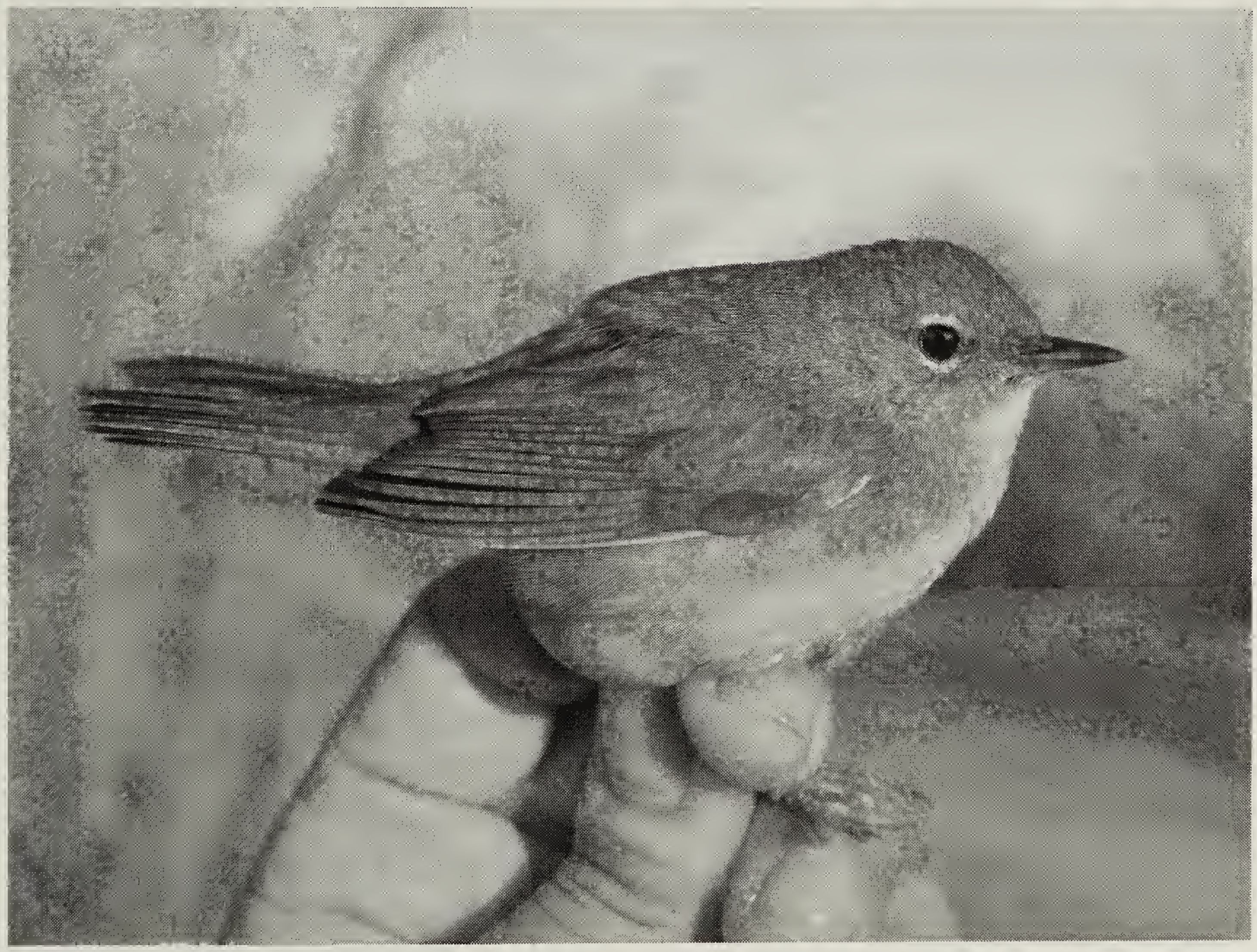
Calliope Hummingbird - 9 November 2013 - Selkirk *- Garry Budyk*

MacGillivray's Warbler. Previously on the hypothetical list, based on reports from 1925 and 1943,[6] this western species was formally added to the list when a second-year female was captured and banded at Delta Marsh on 24 May 2014 and subsequently recaptured, measured and photographed on 26 May 2014.[10] MacGillivray's Warbler breeds as close to Manitoba as the Saskatchewan portion of the Cypress Hills, so its occurrence in MB is not surprising. It is possibly somewhat more common than this account would seem to indicate, but its similarity to Mourning and Connecticut Warblers and its skulking habits may partly account for the scarcity of sightings in Manitoba.

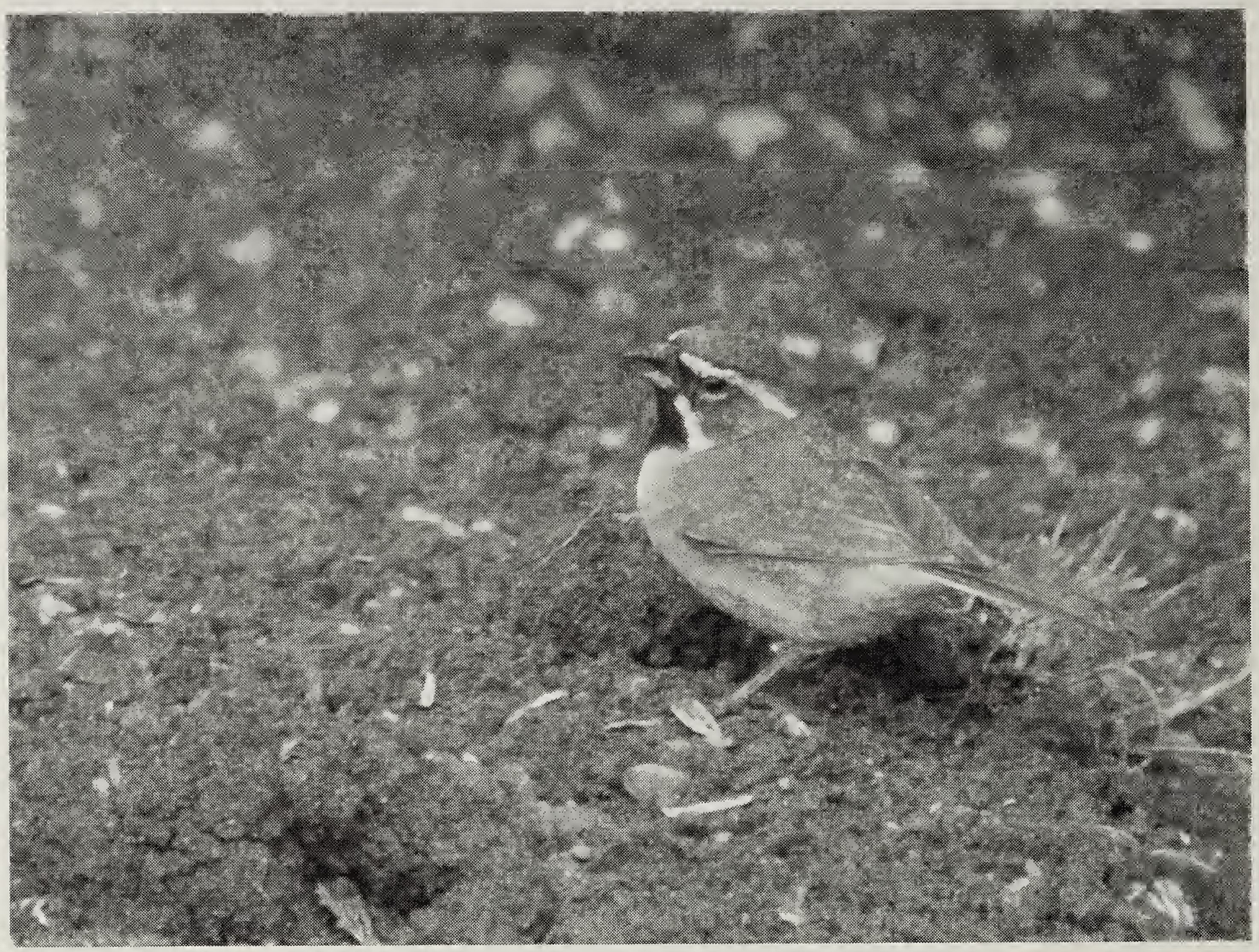
Black-throated Sparrow. An individual visited the feeder of Barry and Joy Snydal-Manikel near St. Jean Baptiste, about 60 km south of Winnipeg, on 6 and 7 June 2014. During its relatively short stay it was seen and photographed by a number of observers, including the home owners. Primarily a bird of western North America, the species has been recorded in several Canadian provinces, including British Columbia, Alberta and Ontario.[4] Saskatchewan's first sighting took place near Hodgeville on 6 June 1991.[15]



Black-throated Gray Warbler - 21 May 2008 - Winnipeg - Garry Budyk



McGillivray's Warbler - 26 May 2014 - Delta - Amanda Guercio



Black-throated Sparrow - 6 June 2014 - St. Jean Baptiste

- Joy Snydal-Manikel

Painted Bunting. Males of this species are unmistakable and even a casual birder would take notice. Such observations, both at feeders, accounted for the two confirmed records for the province. The first took place 24 May 2008 in The Pas, where a male was photographed by P. Tonn.[16] Another male visited the feeder of R. and I. Boulet in St. Georges from late May until 6 June 2009; it was seen and photographed by many.[16] An unconfirmed sighting took place in Winnipeg on 15 June 2010.[17] Saskatchewan added the species to its list in 1997 and Alberta did so in 2000.[18] The timing of sightings fits those elsewhere in the mid-continent, with the majority of Prairie records occurring in spring.[18]

Great-tailed Grackle. While training for the 2015 *Manitoba Breeding Bird Atlas* field season, Amanda Thornhill observed a female Great-tailed Grackle at Quesnel Lake, near Bissett in eastern Manitoba, on 18 May 2013.[19] The bird was photographed later that day by Christian Artuso, but it was not relocated subsequently. Given the northward spread of the breeding range and accidental occurrences of this grackle during the past few

Painted Bunting - 6 June 2009 - St. Georges *- Doug Dance*

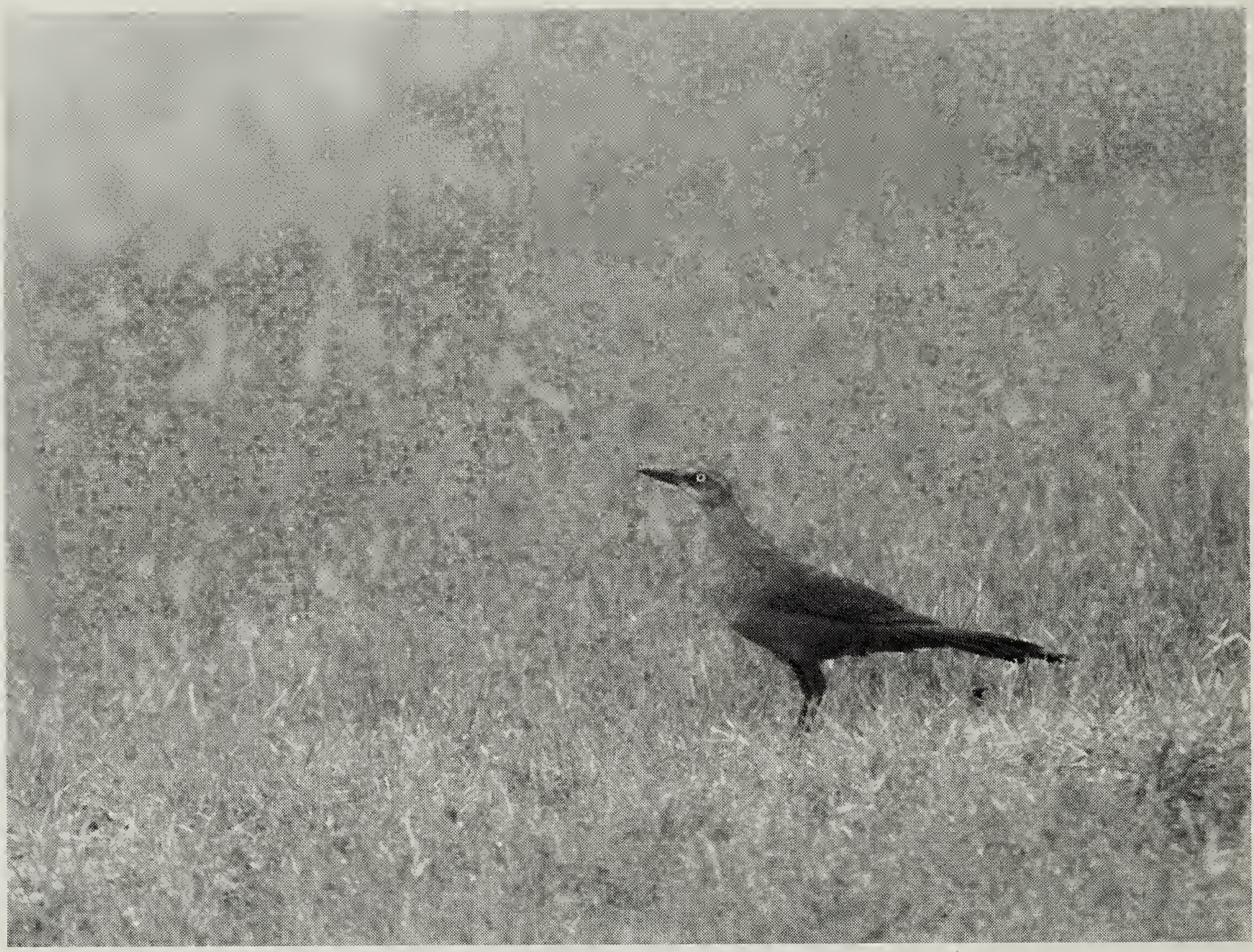
decades, its appearance in the province has been anticipated.[12]

Hypothetical species.

Neotropic Cormorant. While conducting point-count surveys for the *Manitoba Breeding Bird Atlas* on 14 June 2013, Peter Taylor observed an unusually small cormorant in a group of six flying birds. Most, including the small bird, were sub-adults, based on the relatively pale underparts. The size contrast was comparable to that of a Ross's Goose in a flock of Snow Geese, suggesting a possible Neotropic Cormorant with five Double-crested Cormorants. Unfortunately, the birds were too distant (approximately 200 m) and the sighting too brief for diagnostic details to be seen. The breeding range, and especially the extent of post-breeding dispersal, has extended northward in recent years, making its occasional occurrence in the Prairie Provinces plausible. There is one report for Saskatchewan, which is also considered hypothetical.[20]

Acknowledgements

Peter Taylor provided helpful suggestions and wrote the text for the Neotropic Cormorant sighting account. Christian Artuso also provided helpful information. The author thanks both.



Great-tailed Grackle - 18 May 2013 - Quesnel Lake - *Christian Artuso*

1. Koes RF (2008) Additions to the bird list of Manitoba (1997-2007). *Blue Jay* 66:139-147.

2. Koes RF, Taylor P (2008) *Prairie Provinces, North American Birds* 62(3):433.

3. Koes RF, Taylor P (2004) *Prairie Provinces, North American Birds* 58(3):389.

4. Sibley DA (2000) National Audubon Society The Sibley guide to birds. Albert A. Knopf, New York.

5. Seton ET (1908) Recent bird records for Manitoba. *Auk* 25:450-454.

6. Manitoba Avian Research Committee (2003) The birds of Manitoba. Manitoba Naturalists Society, Winnipeg.

7. Koes RF, Taylor P (2014a) *Prairie Provinces, North American Birds* (in press).

8. Kives B (2014) Out of the blue. Winnipeg Free Press 28 May 2014.

9. Sanders C (2014) Watching kites fly a joy for bird lovers. Winnipeg Free Press 31 July 2014.

10. Artuso C, Koes RF (201x) Exceptional Manitoba bird records in 2014. *Blue Jay* (in press)

11. Koes RF, Taylor P (2014b) *Prairie Provinces, North American Birds* (in press).

12. Sibley DA (2003) The Sibley field guide to birds of Western North America. Alfred A. Knopf, New York.

13. Koes RF, Taylor P (2008) *Prairie Provinces, North American Birds* 62(3):434.

14. Koes RF, Taylor P (2009) *Prairie Provinces, North American Birds* 63(3):457.

15. Koes RF, Taylor P (1991) *Prairie Provinces Region, American Birds* 45(5): 1130.

16. Koes RF, Taylor P (2009) *Prairie Provinces, North American Birds* 63(4):618 + 676.

17. Koes RF, Taylor P (2011) *Prairie Provinces, North American Birds* 64(4):613.

18. Mlodinow SG, Hamilton RA (2005) Vagrancy of Painted Bunting (*Passerina ciris*) in the United States, Canada, and Bermuda. North American Birds 59(1):172-183.

19. Koes RF, Taylor P (2013) *Prairie Provinces, North American Birds* 67(2):472.

20. Brazier, FH (1990) Olivacious Cormorant – First record for Canada. *Blue Jay* 48:154 –155.

PLANT COMMUNITIES

OBSERVATIONS OF HIGH QUALITY EASTERN DECIDUOUS RIPARIAN SITES IN SOUTHEAST MANITOBA'S WHITEMOUTH RIVER WATERSHED

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Introduction

The Superior Mixed Wood ecoregion contains mixedwood boreal, pine, and hardwood forests interspersed with forested and unforested peatlands.[1] The Whitemouth River Watershed lies within the northwestern-most extension of this ecoregion (Figure 1). Within the watershed, riparian gallery forests occur adjacent to the Whitemouth, Birch and Boggy Rivers and Whitemouth Lake. These forests are associated with rich floodplain soils, generally in the lower reaches of watershed. They are characterized by trees such as black ash (*Fraxinus nigra*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), box-elder (*Acer negundo*), willow spp., quaking aspen (*Populus tremuloides*), balsam poplar (*Populus balsamifera*) and white spruce (*Picea glauca*).[2, 3] These forests support a vegetative assemblage thought to occur in no other ecological community type in the Prairie Provinces, as they support species that are commonly encountered in the deciduous forests of eastern North America but are rare or absent west of south-eastern Manitoba.

These forests are of conservation interest to organizations such as the Nature Conservancy of Canada (NCC) for their biodiversity value as well as their linkage to the maintenance of stream ecosystem health through erosion control, nutrient uptake, sediment capture and the contribution of woody debris.[4, 5]

Based on forest resource inventories and aerial photography, approximately 7,150 acres (2,894 ha, 0.6% of the Whitemouth River Watershed) of eastern deciduous riparian forest persists

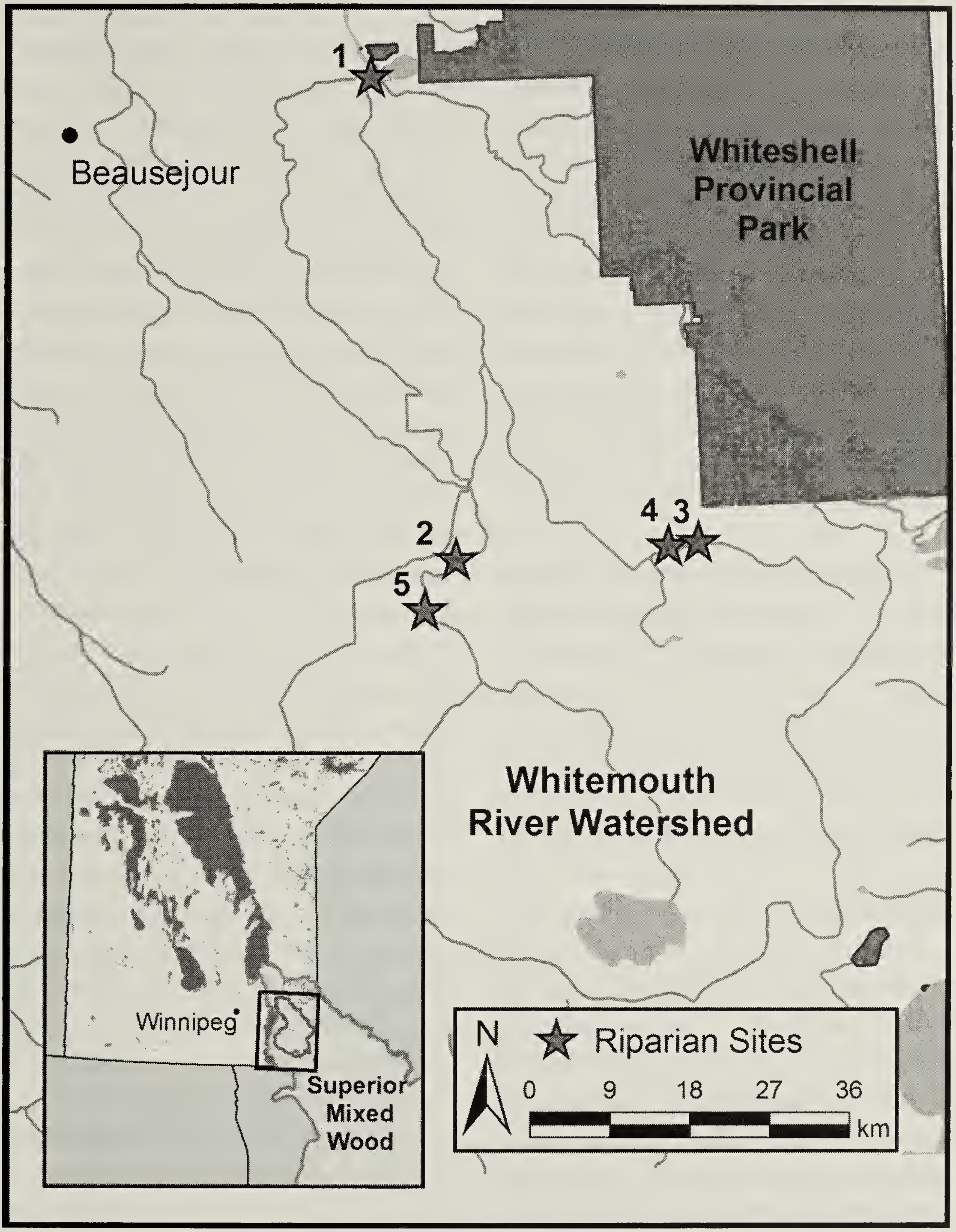

Figure 1- Context map and site locations

in the watershed (NCC internal calculation). A comparison of Dominion Land Survey township diagrams (circa 1890) with current aerial photography suggests that riparian forest stands have been completely cleared in several locations and persist only as narrow bands in others.[3] Larger stands occur on the inside bend of oxbows, and in lower areas prone to flooding.[3] Small riparian forest stands support less interior forest habitat, potentially increasing the chance of alien plant invasion and reducing the likelihood of supporting species dependent on interior forest.[6, 7] Conversion of forest to annual or perennial cropland or, less often, to home and cottage development appear to represent the main historic causes of riparian forest loss in the Whitemouth River Watershed.[3]

The authors sought to identify and describe high quality eastern deciduous riparian forest sites in order to elucidate the potential 'benchmark' structure and composition. This information is needed to guide both restoration and habitat conservation activities.

Methods

Analytical tools in ArcGIS 10.1 were used to determine possible high quality riparian sites. Riparian forest polygons were created using aerial photos; polygons were drawn by tracing around forest patches adjacent to streams and rivers within the lower reaches of of the Birch, Boggy and Whitemouth Rivers. The lower reaches coincide with a broad floodplain supporting rich soils – most of the watershed's agricultural development is associated with this floodplain. Following Moffat (2002) and Richardson et al. (2007), we assumed that riparian patches with greater forest interior would be of higher quality.[6, 8] Sites larger than 3 hectares and with an area:perimeter ratio larger than 50:1 were selected. We were interested in determining whether the number of rare species within a given stand could potentially be used as an indicator of riparian health. We further narrowed the list of potential survey sites by selecting patches within 500 metres of provincially rare or uncommon species occurrences, as recorded in the Manitoba Conservation Data Centre Biotics Database.[9] Surveys focussed on forest patches that occurred on Crown land, as we were unable to obtain access to selected private lands. A reciprocal GIS analysis was conducted to find potentially degraded sites, but permission to access these properties could not be obtained.

Survey sites occurred along the Whitemouth River (Sites 1, 2, and 5) and on Boggy Creek near its confluence with the Birch River (Sites 3 and 4; Figure 1). Site visits were conducted on August 26 and 27th, 2013 with each visit taking two to three hours. While Manitoba's Forest Ecosystem Classification

Guide[10] is an excellent resource for classifying most of Manitoba's forest types, it does not clearly resolve differences between stands dominated by green ash, American elm, box-elder and bur oak. These stand types are commonly encountered in riparian areas of the Superior Mixed Forest ecoregion. In this study, vegetation communities were classified using *Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province*, a guide developed for the Superior Mixed Forest region of Minnesota.[11]

At each site a forest assessment was conducted. These assessments documented the dominant species within tree, shrub or non-woody categories at various height classes (Appendix A). All plant species observed were recorded, but resulting species lists are not considered complete as survey time was limited and multi-season visits were not made. Graminoids were generally not identified to species. The type and degree of forest disturbance was recorded and the amount of deadfall and standing dead trees was documented. A riparian assessment was conducted using *Managing the Water's Edge: Riparian Health Assessments for Streams and Small Rivers.*[5] These assessments document vegetation cover, invasive plant species, disturbance-increaser species, preferred tree and shrub establishment and regeneration, utilization of preferred trees and shrubs, standing decadent and dead woody material, stream bank root mass production, human-caused bare ground, streambank structurally altered by human activity, pugging and hummocking, and stream channel incisement. All measurements are based on visual estimations. Pugging and hummocking were not incorporated into our assessment as none of the sites visited supported livestock grazing. The assessment is designed to produce a score representing the relative health of the riparian area (for our study 54 points were possible). The riparian assessment, forest assessment, and other information were recorded for the reach of the floodplain only. Broad community and land-use information was recorded for the adjacent upland systems. Stream width and floodplain width were measured in GIS using aerial photos. Floodplain width was calculated as the mean length of the floodplain for the shortest and longest widths within the site. Stream depth was visually estimated.

We conducted exploratory

analyses to determine whether riparian health scores and other characteristics were correlated with rare species diversity. Species rarity was based on provincial status ranks classified by NatureServe.[12] These ranks range from S1 to S5, where S1 is critically imperilled and S5 is secure. In this study we defined rare species as those ranked S1 – S3.

Results

The dominant vegetation community at all riparian sites was Northern Terrace Forest. These communities were dominated by black ash in the upper canopy with black ash, green ash, American elm, and box-elder in the lower canopy/shrub layer. Within this matrix habitat, Northern Floodplain Forest occurred either in perched oxbows or on the inner side of river bends. The observed composition of both community types aligned well with the descriptions noted in the Minnesota community classification guide, except that silver maple was not observed. Silver maple has been reported in extreme southeastern Manitoba, but has not been confirmed as present.[13]

Table 1 describes each site based on the physical dimensions of the tributary, the adjacent land-use, and the riparian assessment score. All riparian sites were deemed to be healthy based on the riparian assessment guide. No sites scored the maximum possible number of assessment points, losing points for a variety of reasons: invasive plants (all sites), maintenance of woody vegetation (Sites 2 and 5) preference of woody vegetation used (Sites 1, 3 and 5), dead and decadent wood (Site 5), and stream access to flood plain (Sites 4 and 5). No points were lost for vegetation cover, disturbance caused species, deep rooted banks, and human-caused bare-ground.

A list of common species observed is presented in Table 2. Only those species found at three or more of the riparian sites are listed. The following species were observed at all riparian reference sites: American elm, black ash, box-elder, broad-lobe dandelion, creeping thistle, downy arrowwood, green ash, hazelnut, highbush cranberry, nodding trillium, purple meadowrue, red-osier dogwood, spotted water-hemlock, and willow species. Black ash dominated the upper canopy in all riparian sites. Box-elder and American elm were found in all riparian sites in the lower canopy (0-5 m; see Appendix A for a complete list of dominant species). In the herb

Table 1 – Summary of site characteristics for five riparian sites in the Whitemouth River Watershed

	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
Adjacent Land-use	Aspen and Balsam Poplar forest in uplands; cottages on the other side of river, ATV/Ski/Hiking trail in reach; campground at north end of reach; powerlines at south end of reach;	Mixed-wood forestry land and tame grassland in uplands; ATV and ski trails in uplands	Spruce and cedar forest	Mixed-wood forest bisected by wide gravel Road ; Cottages,	Balsam fir, aspen, white birch, white spruce forest; cottages to the south; surrounded by Provincial Forest
Stream depth (m)	8	6	2	3	5
Floodplain width (m)	48	64	56	16	23
Stream Width (m)	72	19	8	9	21
Riparian Health Score (/54)	49	48	50	49	47
Riparian Health Percentage (%)	91%	89%	93%	91%	87%
Photos	Figure 2	Figure 3	Figure 4	Figure 5	Figure 6

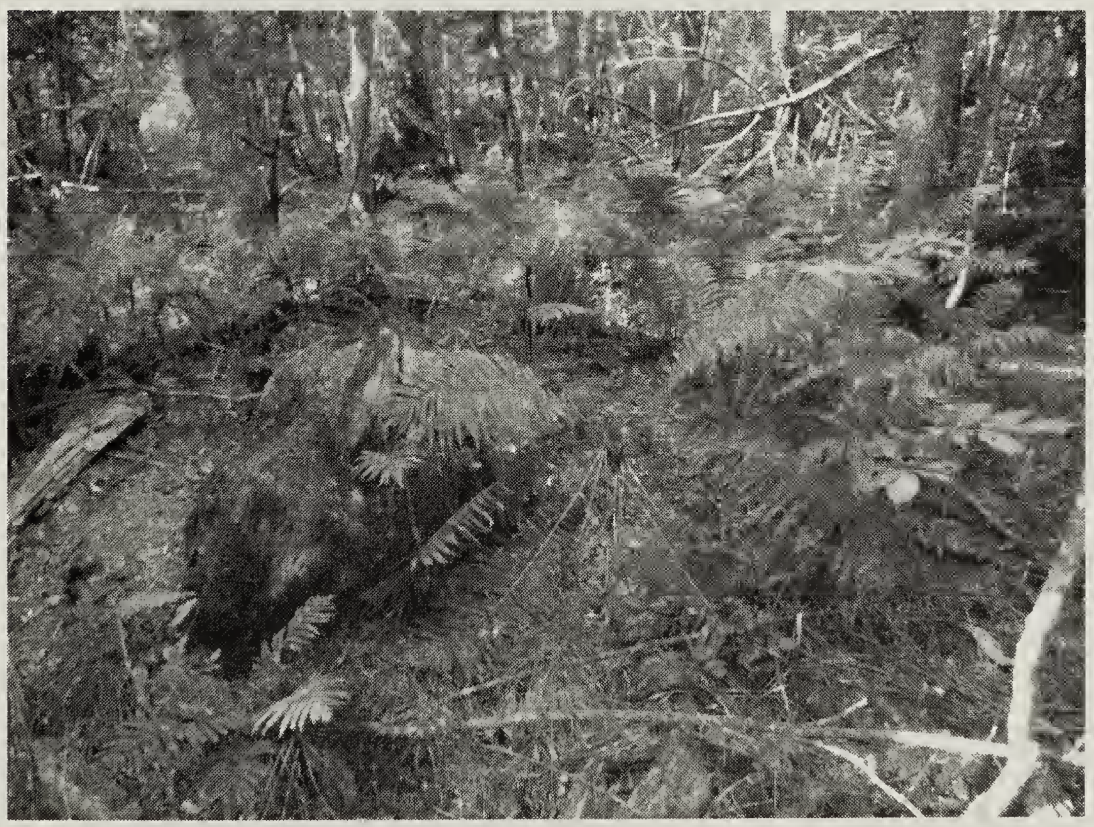

Figure 2 – Site 1 forest interior

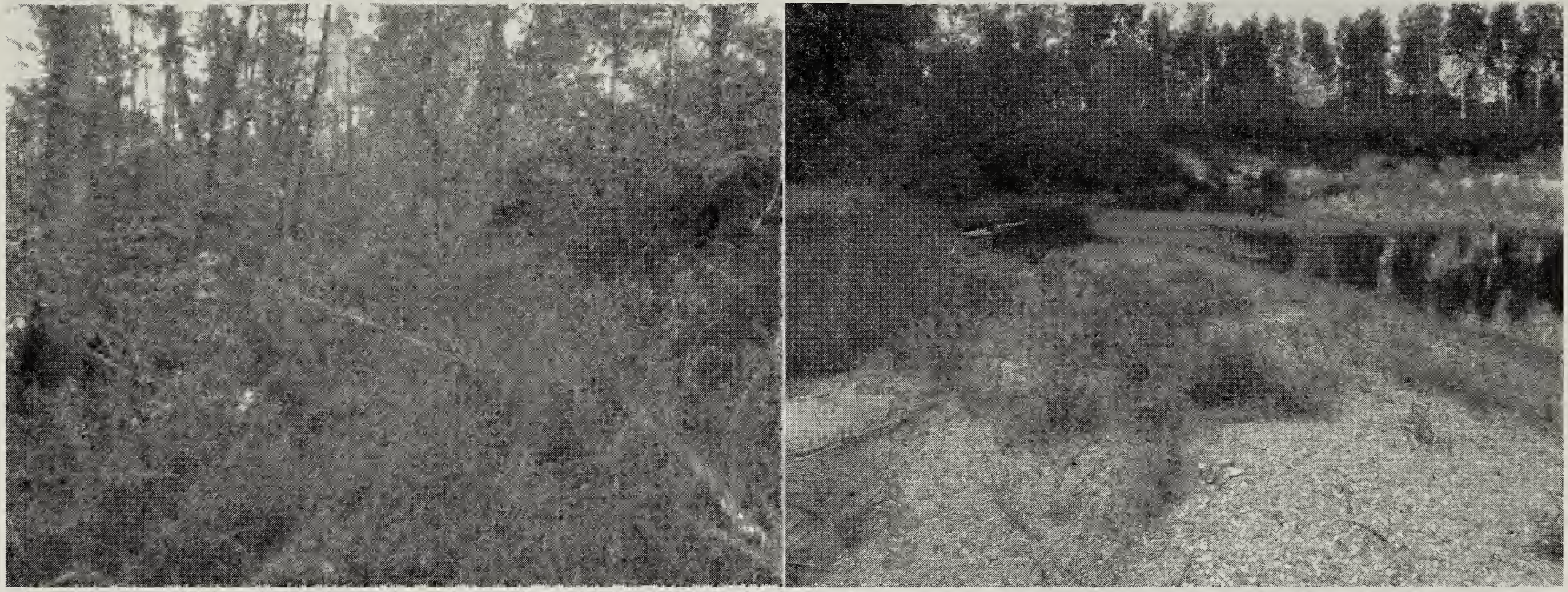

Figure 3 – Site 2 perched oxbow (left) and river bank (right)

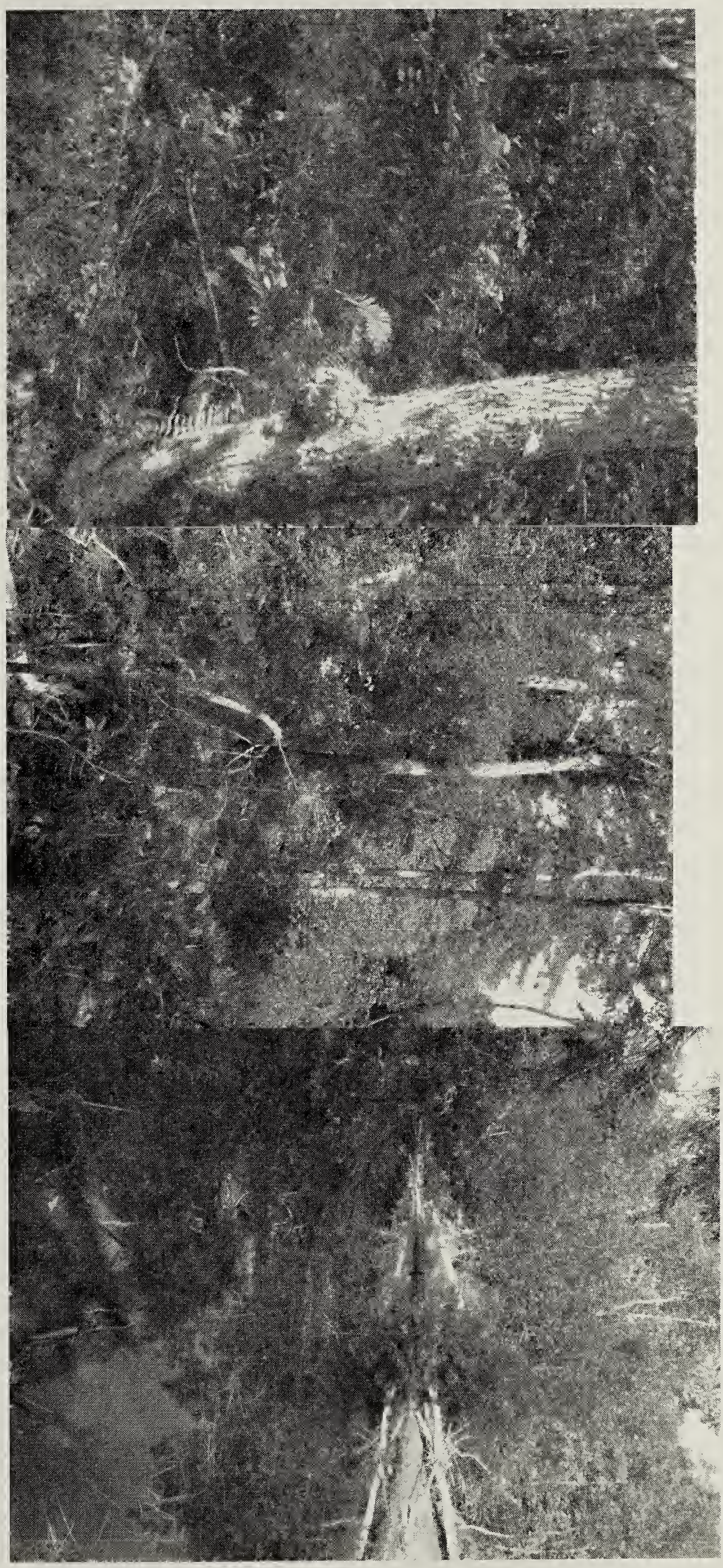

Figure 4 – Site 3 interior (left), edge (centre) and river (right)

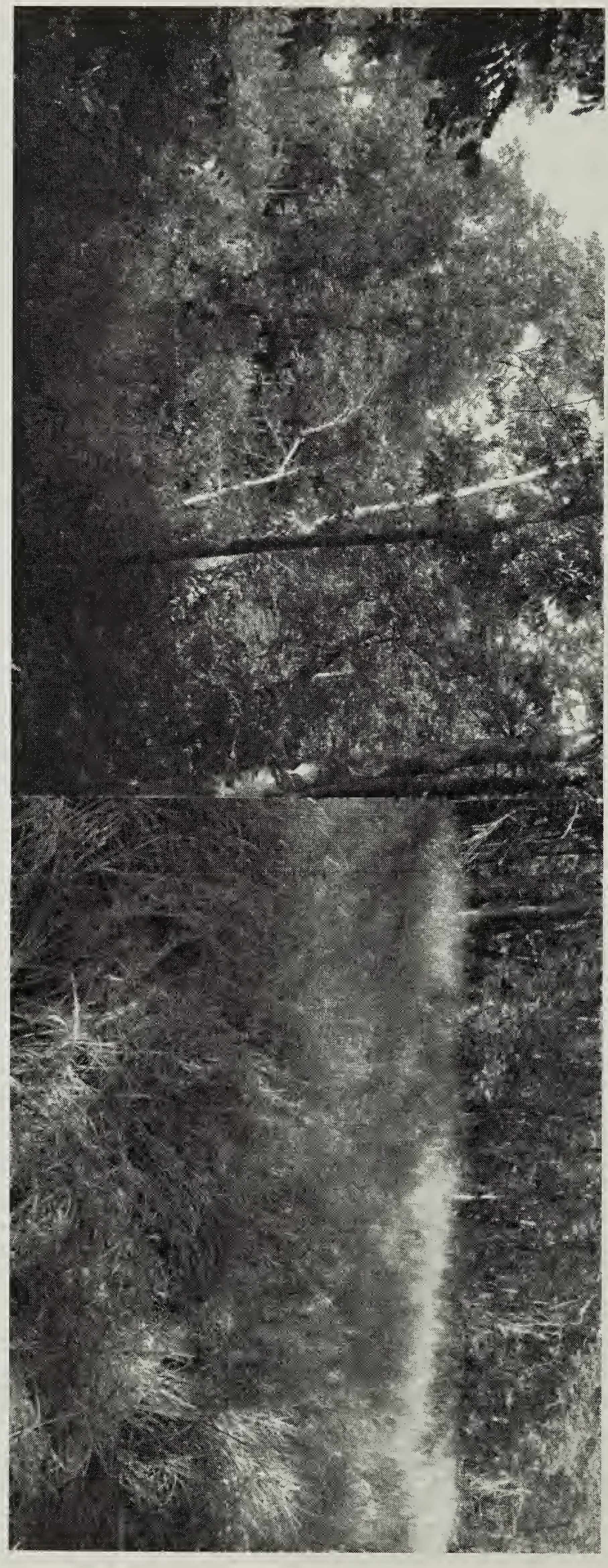

Figure 5 – Site 4 forest interior

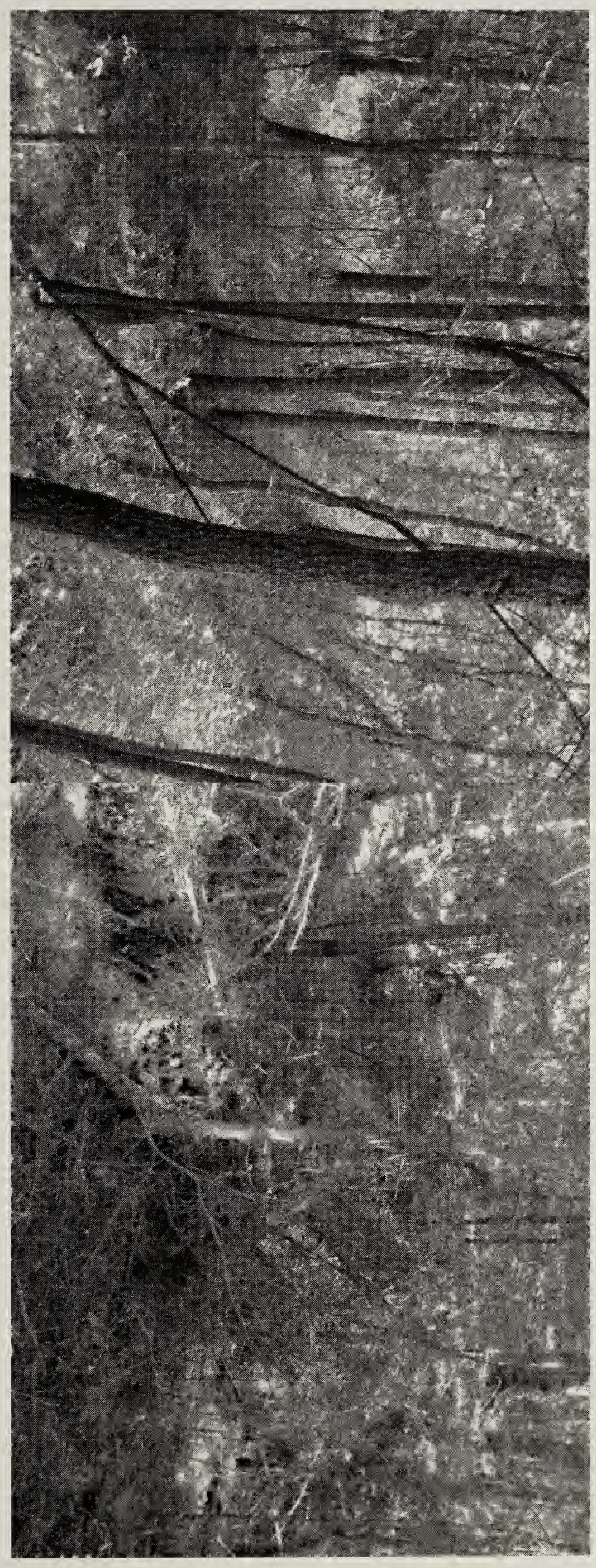

Figure 6 – Site 5 forest interior

Table 2 – Common species observed at five riparian forest sites in the Whitemouth River Watershed (species occurring in at least 3 sites). Species names after NatureServe[14].

Common Name	**Species Name**	***Number of Sites***
American elm	*Ulmus americana*	5
Black ash	*Fraxinus nigra*	5
Box-elder	*Acer negundo*	5
Broad-lobe dandelion	*Taraxacum officinale ssp. vulgare*	5
Creeping thistle	*Cirsium arvense*	5
Downy arrowwood	*Viburnum rafinesquianum var. Rafinesquianum*	5
Green ash	*Fraxinus pennsylvanica*	5
Hazelnut	*Corylus sp*	5
Highbush cranberry	*Viburnum opulus var. americanum*	5
Nodding trillium	*Trillium cernuum*	5
Purple meadowrue	*Thalictrum dasycarpum*	5
Red-osier dogwood	*Cornus sericea*	5
Spotted water-hemlock	*Cicuta maculata*	5
Willow sp.	*Salix sp*	5
Alderleaf buckthorn	*Rhamnus alnifolia*	4
Canada anemone	*Anemone canadensis*	4
Canada goldenrod	*Solidago canadensis*	4
Canada wild ginger	*Asarum canadense*	4
Canada wild rye	*Elymus canadensis*	4
False lily-of-the-valley	*Maianthemum canadense*	4
Mannagrass sp.	*Glyceria sp*	4
Ostrich fern	*Matteuccia struthiopteris*	4
Rough Horsetail	*Equisetum hyemale*	4
Saskatoon serviceberry	*Amelanchier alnifolia*	4
Smooth herbaceous Greenbrier	*Smilax herbacea*	4
Awnless brome	*Bromus inermis*	3
Bur oak	*Quercus macrocarpa*	3
Chokecherry	*Prunus virginiana*	3
Fresh water cordgrass	*Spartina pectinata*	3
Horsetail sp.	*Equisetum sp*	3
Little green sedge	*Carex viridula*	3
Long-fruit anemone	*Anemone cylindrica*	3
Northern poison-oak	*Toxicodendron rydbergii*	3
Paper birch	*Betula papyrifera*	3
Reed canarygrass	*Phalaris arundinacea*	3
Rose sp.	*Rosa sp*	3
Spotted joe-pyeweed	*Eupatorium maculatum*	3
Violet sp.	*Viola sp*	3
White spruce	*Picea glauca*	3
White turtlehead	*Chelone glabra*	3
Wild mint	*Mentha arvensis*	3

layer, nodding trillium, a species with a more eastern distribution, was found in all riparian sites. A complete list of eastern-affiliated species observed is presented in Table 3.

Our exploratory analyses were unable to detect any possible correlations between rare species and riparian health scores. A possible relationship between rare species richness and floodplain width was observed: the three sites with the widest floodplain width (>45 m) supported three rare species each, while the two sites with the narrowest width (<25 m) supported two or fewer rare species.

Discussion

The results of this study represent a first attempt to describe high quality riparian forest sites in the Whitemouth River Watershed. These stands may represent ecological benchmark sites against which the quality of regional riparian areas and restoration efforts could be assessed. All assessed sites existed within larger forested blocks, and all sites received ‘healthy’ scores.

The species composition of the studied sites differs from that of most riparian sites in Manitoba, given the dominance of provincially rare black ash and the regular occurrence of other species of eastern North American affinity. Given the study area’s location within the Superior Mixed Wood ecoregion the presence of these species is not unexpected. The species composition of the studied sites is consistent with previous observations by NCC staff and descriptions of eastern deciduous riparian gallery forests in northeastern Minnesota.[3, 11]

Invasive plants were present at all sites, but were most abundant at Site 1 and 2. Recreational trails (ATV/skiing/hiking) passed through or were adjacent to both sites. Regular soil disturbance and seed transfer from trail users and maintenance equipment may be linked to the higher degree of invasion of these sites.[15]

The three stands that were associated with floodplain widths of 45 m or greater supported the most rare species. It may be that rarer species have a greater affinity for interior forest conditions or that sites with greater flood plain width have a higher amount of habitat heterogeneity thus supporting a greater variety of species. However, sample size in our study was very small, and the potential link between riparian forest stand width and rare species diversity is presented only to highlight a possible relationship deserving of further study.

Future work should focus on describing and assessing riparian sites that are adjacent to the annual croplands and pasturelands that dominate the lower reaches of the Whitemouth River Watershed. This would contribute to a better understanding of the range of characteristics of riparian systems within the watershed and help gauge similarities with the putative high quality sites presented here. An expanded project would provide a better understanding of indicators of riparian health, compatible land use, threats to riparian ecosystems and opportunities for future restoration projects.

Acknowledgements

The authors wish to thank Stephen Gietz and Julie Pelc of NCC for technical assistance and advice. J. Kornelsen was funded in part by the Shell Conservation Intern Program.

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Appendix A – Dominant plant species observed in Whitemouth River Watershed riparian forest sites, sorted by growth form and vertical strata. Invasive species are also noted.

Tree species >15 m					
Dominance	**Site 1**	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Black ash			White spruce	Balsam fir
2	Bur oak			Jack pine	Black ash
3					White spruce
4					Paper birch
Tree Species 5-15 m					
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Black ash	Black ash	Black ash	Black ash	Green ash
2	Bur oak	Box-elder	Box-elder	Green ash	Black ash
3	American elm	Bur oak	American elm	Box-elder	White spruce
4	Paper birch		Green ash	Paper birch	Balsam fir
5					American elm
Tree Species 2-5 m					
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Black ash	Black ash	Black ash	Black ash	Green ash
2	American elm	American elm	Green ash	Green ash	Box-elder
3	Willow spp.	Green ash	Box-elder	Box-elder	Black ash
4	Box-elder	Box-elder		American elm	White spruce
5					Balsam fir
Tree Species <2 m					
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Black ash	American elm	American elm	Black ash	Green ash
2	Box-elder	Black ash	Black ash	Green ash	Black ash
3	Bur oak	Box-elder	Box-elder	Box-elder	Box-elder
4		Green ash	Bur oak	White spruce	American elm
5				Balsam poplar	Willow spp.
6				American elm	
Shrub Species > 2 m					
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Hazelnut spp.	Hazelnut spp.	Red-osier dogwood	Hazelnut spp.	Beaked hazelnut
2	Red-osier dogwood	Highbush cranberry	Highbush cranberry	Highbush cranberry	Highbush cranberry
3	Highbush cranberry	Red-osier dogwood	Hazelnut spp.	Downy arrow-wood	Downy arrow-wood
4		Choke cherry	Choke cherry	Red-osier dogwood	
5		Hawthorn spp.	Saskatoon serviceberry		

	Shrub Species 30 cm - 2 m				
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Hazelnut spp.	Hazelnut spp.	Red-osier dogwood	Saskatoon serviceberry	Beakered hazelnut
2	Red-osier dogwood	Rose spp.	Downy arrow-wood	Red-osier dogwood	American plum
3	Siberian peabush*	Snowberry	Saskatoon serviceberry	Alderleaf buckthorn	Highbush cranberry
4	Downy arrow-wood	Highbush cranberry	Alderleaf buckthorn		Downy arrow-wood
5	Highbush cranberry		Narrowleaf White Meadowsweet		Alderleaf buckthorn
6					Saskatoon serviceberry
	Non-woody Species				
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Ostrich fern	Ostrich fern	Grasses	Ostrich fern	Canada anemone
2	Rough horsetail	Sedge sp.	Canada anemone	Purple meadowrue	Canada wild rye
3	Meadowrue spp.	Rough horsetail	Aster (unknown)	Canada anemone	Canada wild ginger
4	Green sedge	Smooth herbaceous greenbrier	Purple meadowrue	Canada wild ginger	Purple meadowrue
5		Canada wild ginger	Sensitive fern	Wild sarsaparilla	Ostrich fern
	Invasive/weedy Species				
	Site 1	**Site 2**	**Site 3**	**Site 4**	**Site 5**
1	Creeping thistle	Creeping thistle	Creeping thistle	Creeping thistle	Creeping thistle
2	Meadow timothy			Broad-lobe dandelion	
3	Common tansy			Smooth brome	

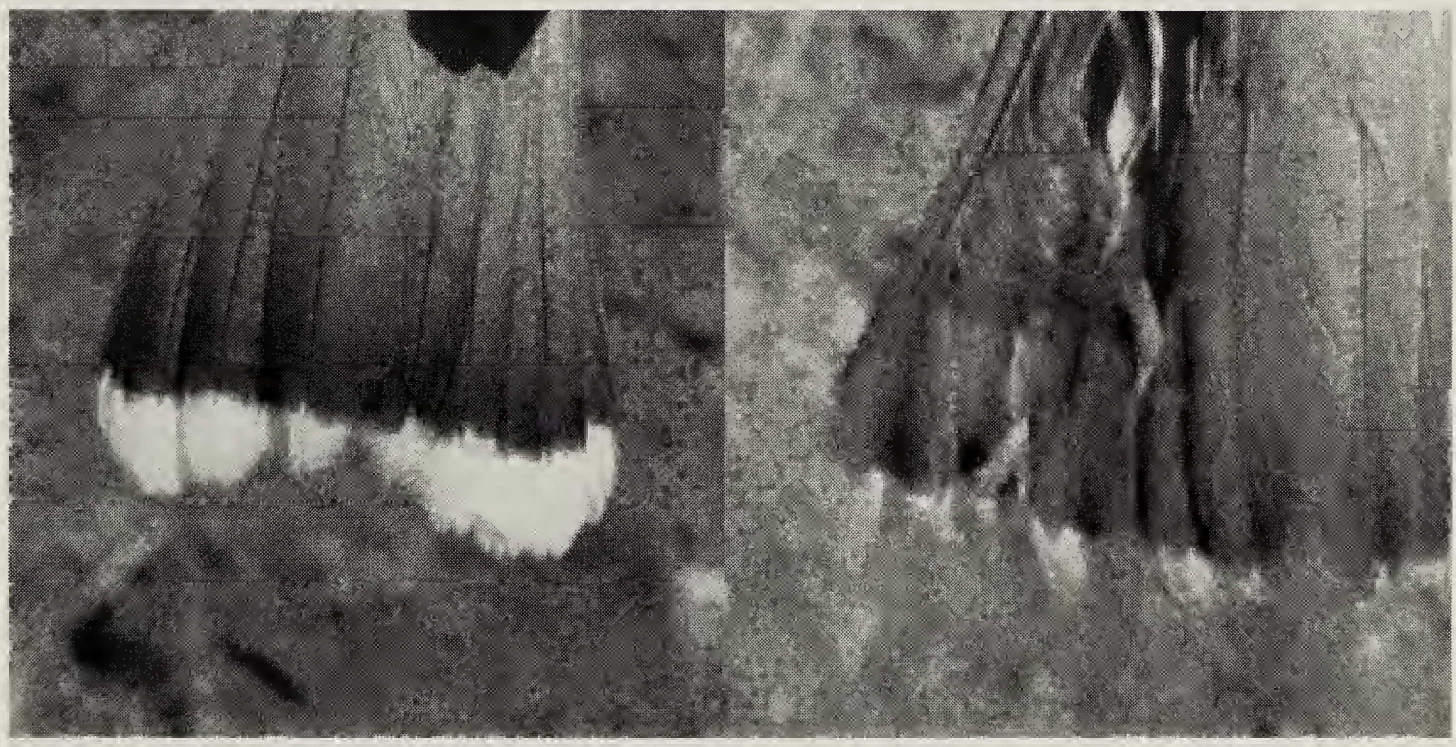
** A shrubby invasive species, not included in invasives since its growth form differed from the other invasives*

NOTES and LETTERS

CEDAR WAXWINGS WITH ORANGE TAIL TIPS

Ross Dickson Email: *rossdickson1112@gmail.com*

All Cedar Waxwings have yellow tail tips, don't they? If a waxwing eats fruit from a Morrow's honeysuckle (*Lonicera morrowii*) as its incoming tail feathers are growing (in this case a young bird), red carotenoid pigment (rhodoxathin) is deposited in the cells and the tail tip is orange. This phenomenon was not seen before the 1950s when this honeysuckle was sold by nurseries. The waxwings and robins eat the fruit and then drop the seeds across the countryside. It is now an invasive species across eastern North America.



Cedar Waxwing tails - typical (left) with red pigment (right). Colour images inside back cover. *- Ross Dickson*

OBSERVATION OF A BROWN THRASHER NEST (*TOXOSTOMA RUFUM*) ON STATIONARY FARM EQUIPMENT

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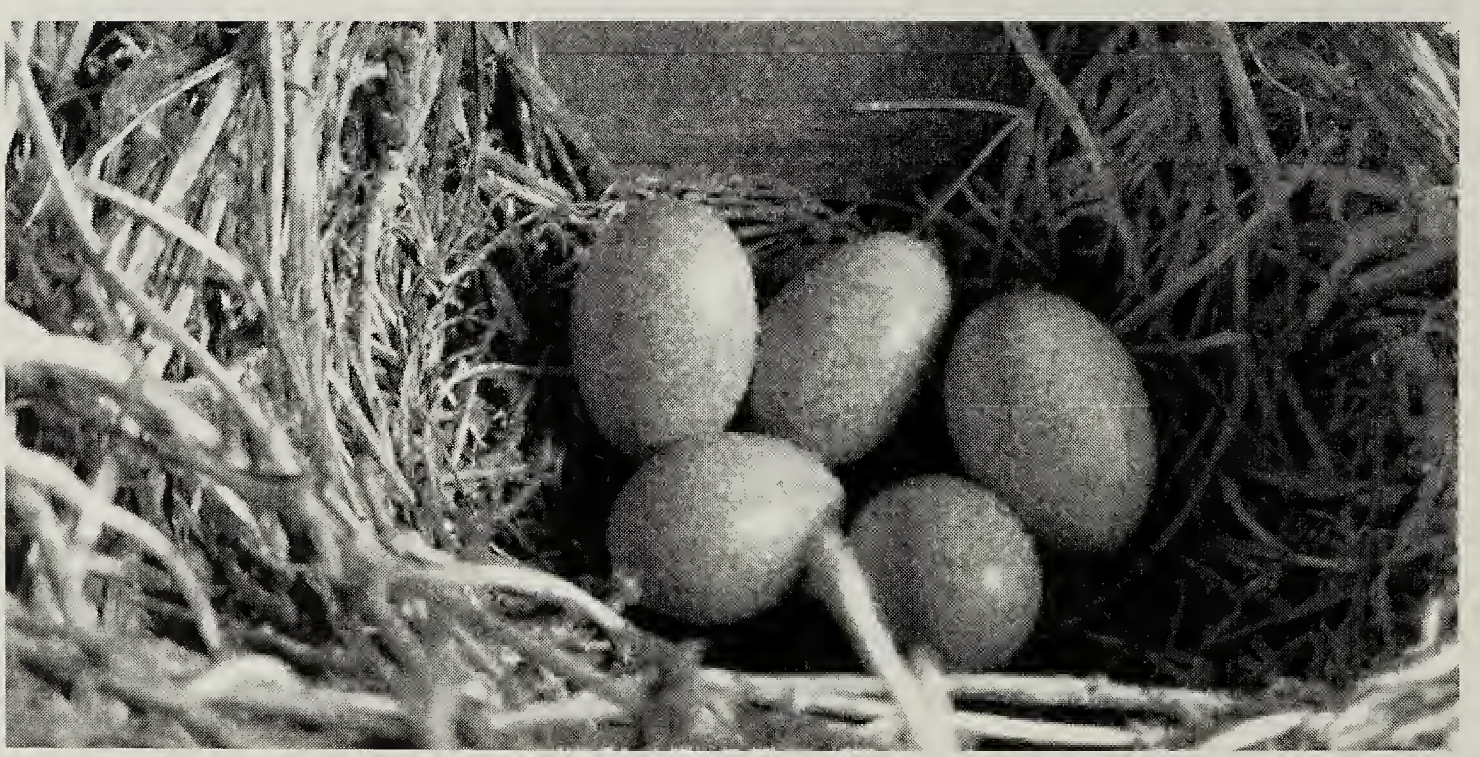
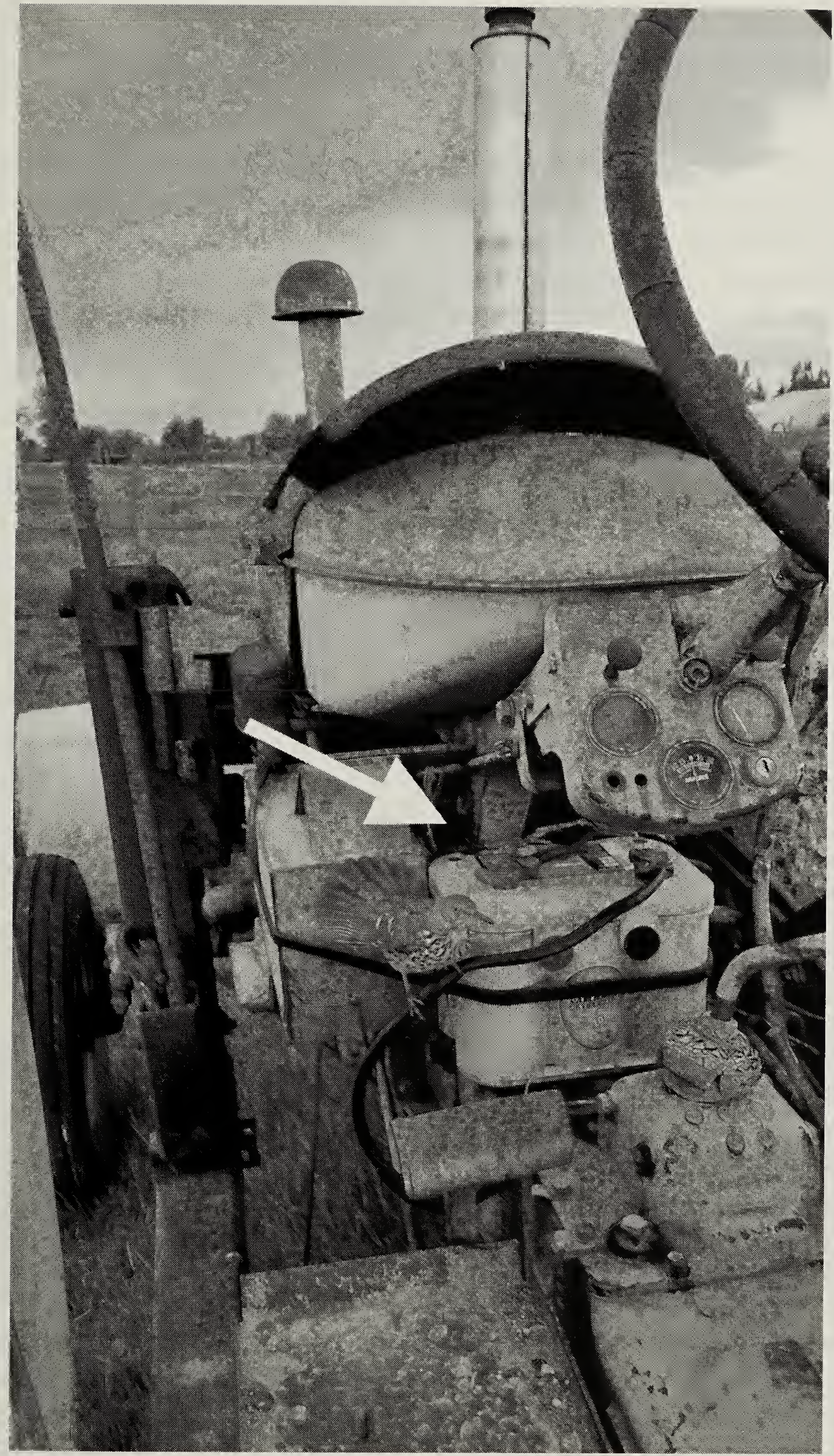
Email: *jamie.rothenburger@gmail.com*

On June 20, 2015, at 14:00h, a brown thrasher (*Toxostoma rufum*) nest was discovered containing 5 eggs (Fig. 1). The nest was situated on a stationary 1939 Model 30 Cockshutt tractor, immediately adjacent to the battery case alongside the starter and hydraulic tank (Fig. 2). The tractor was parked during the winter at an acreage in Pasqua, Saskatchewan (50°22'29" N, 105°22'54" W), a hamlet located 13 km east of Moose Jaw and it had not been moved since. By 06:00h on June 21, 2015, two eggs hatched and these chicks were within the nest. The remaining three eggs were intact. Two apparently healthy young were last seen within the nest on July 6, 2015 at 15:00h. The female aggressively guarded the nest at each of these observations. As of July 8, 2015, the female and young were gone. Typical nesting locations for the brown thrasher include low shrubs, small trees and rarely on the ground. To our knowledge, this is the first report of a brown thrasher nesting on farm equipment.

Acknowledgement
We wish to thank C. Stuart Houston for encouraging us to write this report.



- Jamie Rothenburger and Tex Rothenburger



- Jamie Rothenburger and Tex Rothenburger

SIGHTINGS OF NON-NATIVE RED-EARED SLIDERS IN WASCANA MARSH, REGINA, SASKATCHEWAN

Kelsey A. Marchand[1], Christopher M. Somers[1], and Ray G. Poulin[2]
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[2] Royal Saskatchewan Museum, Regina, Saskatchewan

Two turtle species are native to Saskatchewan, the snapping turtle (*Chelydra serpentina*) and the western painted turtle (*Chrysemys picta bellii*). The snapping turtle is primarily found in the southeast corner of Saskatchewan, whereas the western painted turtle is more widespread reaching areas as far north as the Saskatchewan River and Duck Mountain.[1] Neither species is listed as at risk of extinction, however little is known about the ecology of turtles in Saskatchewan. On 10 July 2015, a red-eared slider (*Trachemys scripta elegans*) was found swimming in Wascana Marsh, Regina, Saskatchewan. As of September 2015, there have been six confirmed sightings of red-eared sliders in Wascana Marsh, Regina: two captures, one shell from a dead individual, and three visual observations. The red-eared slider is not native to Canada; it is naturally found in the central and southeastern United States, but has become an invasive species in many ecosystems. Sliders are commonly found in the turtle pet trade, and they enter natural aquatic ecosystems when people release unwanted pets into the wild. As a result, red-eared sliders have been introduced on all continents except Antarctica.[2] Their introduced populations compete with native turtles for resources, and introduce novel diseases to native populations.[2,3] Sliders can be distinguished from the native western painted turtle by the “red ears” found on either side of their head (Fig. 1). Western painted turtles do not have this red patch, but rather yellow stripes surrounding the head (Fig. 2). The plastron can also be distinguished between the two species; the red-eared slider has a yellow to cream colored plastron with brown or black markings on each of the scutes (Fig. 3), whereas the western painted turtle has a red plastron with a black and yellow design that connects along the seams of each of the scutes (Fig. 4). Red-eared sliders may represent a novel threat to western painted turtles in Saskatchewan, which already face many challenges from climate and anthropogenic changes to watersheds.

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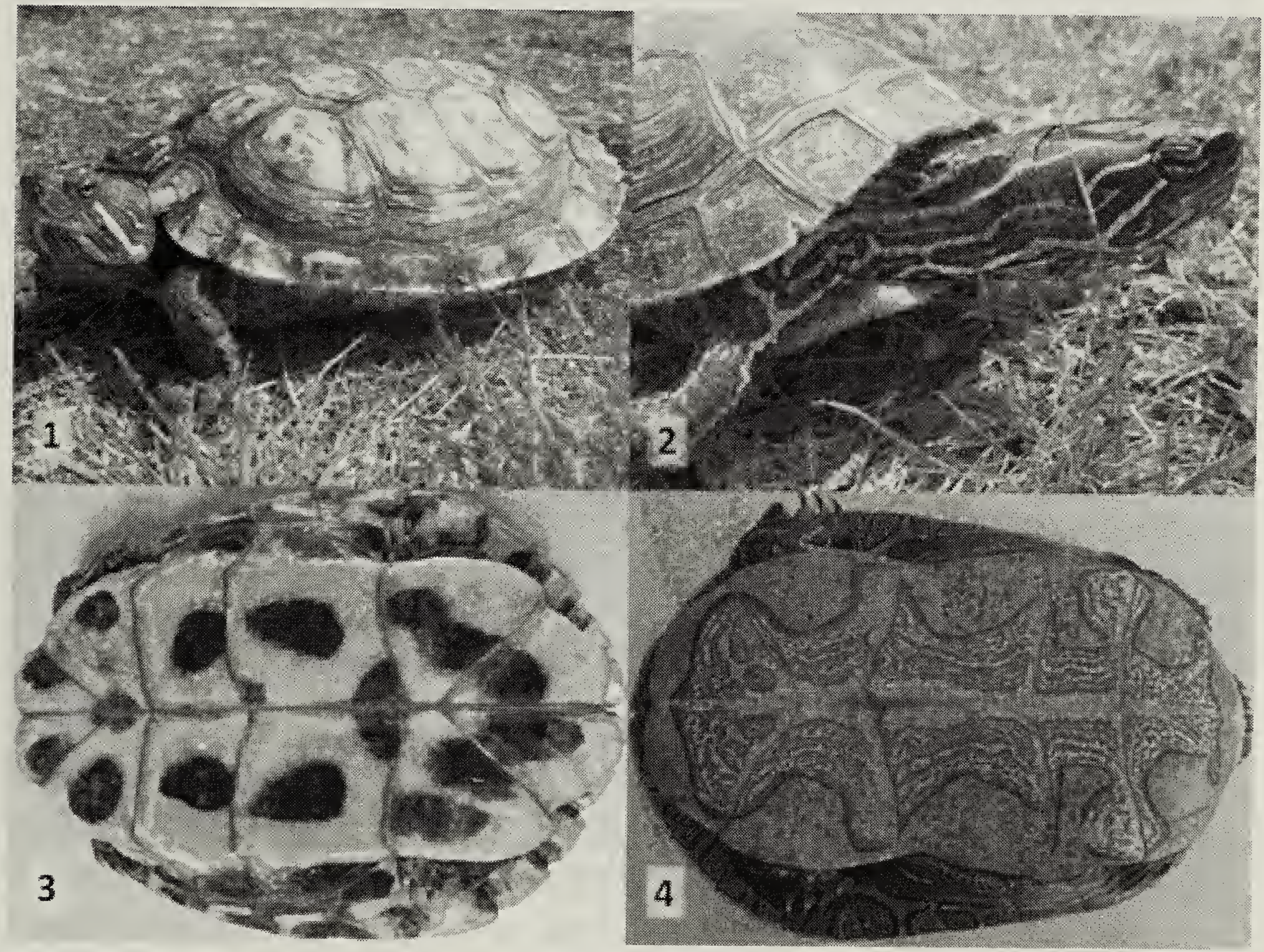


Figures 1-4 *(See inside front cover for colour image)*

HOW FARLEY MOWAT CHANGED MY LIFE

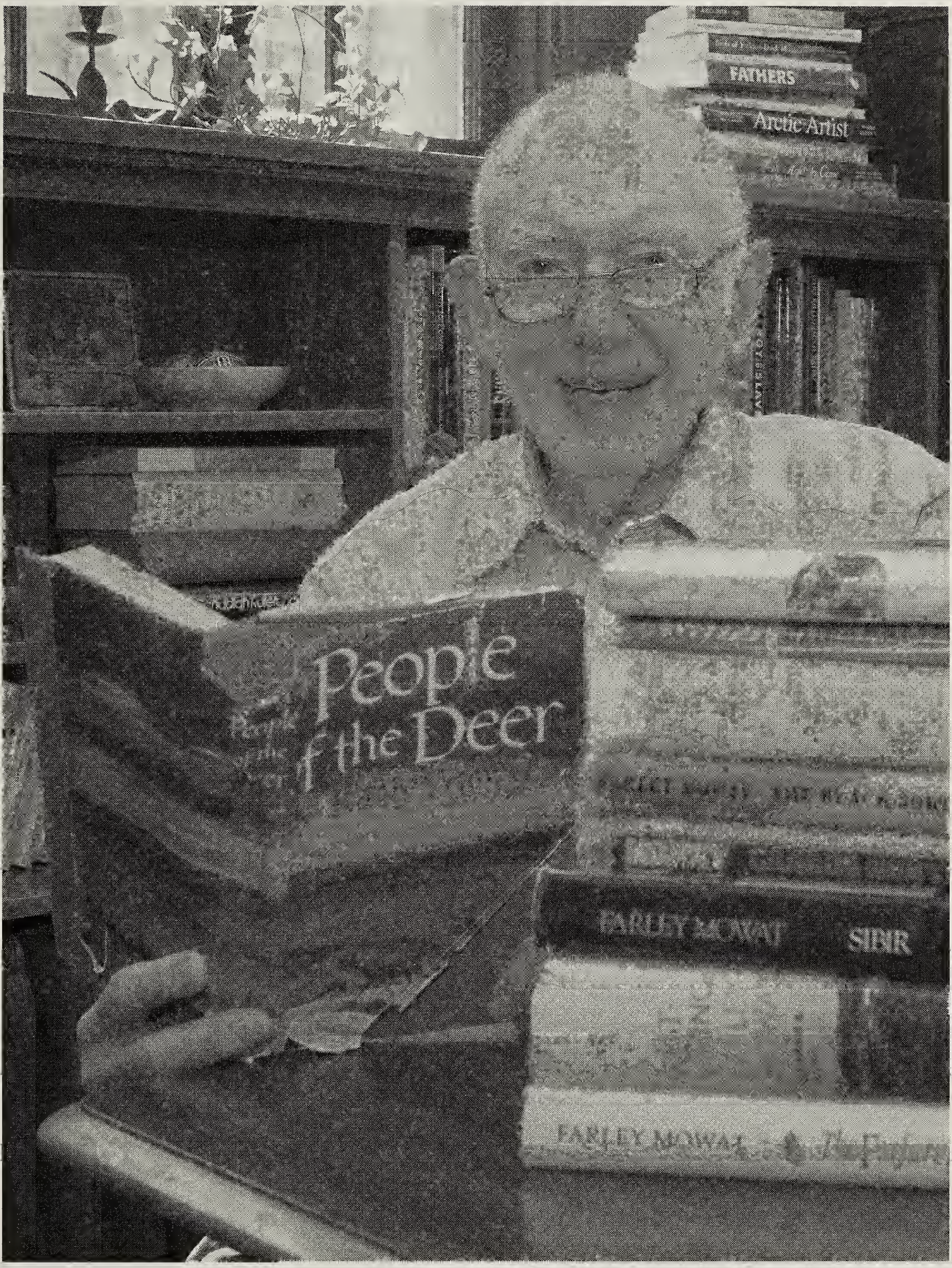
C. Stuart Houston, 863 University Drive, Saskatoon, SK S7N 0J8

Farley Mowat, newly demobilized from the Canadian Army after World War Two, used his Canadian Army gratuities to purchase an open Jeep. He headed west in 1946 to gather material for his planned work, the Birds of Saskatchewan. A veteran of one pre-war collecting trip for the Royal Ontario Museum of Zoology (ROMZ), Mowat this time had only his expenses paid in return for collecting additional specimens for the museum.

Before he came west, Mowat wrote to Mrs. Isabel M. Priestly, the founder (four years earlier) and first editor of the *Blue Jay*. Each of Farley's letters and envelopes were "banged off" on his antiquated typewriter. His introductory letter of 26 March 1946, which contained 50 cents for a year's subscription to *Blue Jay*, contained his promise to come to Yorkton that summer. His goal was to write the definitive Birds of Saskatchewan, and to share with Canadians the importance of Dr John Richardson. Mrs Priestly shared her delight at this prospect with her family and with her friends J.R. Foreman and Ethel Lloyd, but she died suddenly of an unexpected and unfortunate cerebral hemorrhage on 23 April.

Mowat's 1946 field diary, still on extended loan, reveals that he collected specimens in the Dundurn area from 8 to 30 May, the Montreal Lake area from 3 June to 14 July and then arrived at Yorkton in his open Jeep on 17 July. Following Isabel Priestly's untimely death, Mowat had to settle for a sharing of plans with me, a young lad not yet nineteen. My summer employment was my fourth year of banding ducks for Ducks Unlimited; I had just been accepted into first year medicine at the University of Manitoba. Mowat declined Dr Sigga Houston's offer of a bedroom upstairs at 82 Fourth Avenue, Yorkton; he preferred to place his folding camp cot in the one basement room that sported a wooden floor, the meeting room for the Eagle Patrol of the Third Yorkton Troop of Boy Scouts of Canada, and my mimeographing office. That room became his bird-skinning room for preparation of scientific study skins. He stayed for three nights.

Mowat was much the most interesting character I had met – and he kept up irregular contact with me until his death on 7 May 2014. My front-page interview and page two photograph with Mowat's books in the *Saskatoon Star-Phoenix* two days later,



Stuart Houston enjoying one of Farley Mowat's books - Stuart Houston

was followed by my interview on Mowat's birthday, 12 May on Global Television, shared nationwide. Writing from the entertaining interface between his true experiences and his imagination, Mowat had become one of Canada's most successful authors. When Mary Houston was presented with the Douglas

Pimlott award at the Canadian Nature Federation (now called Nature Canada) meeting in Yellowknife on 2 July 1988, she told the appreciative audience that when accosted by Pimlott at a soiree in Toronto, following publication of *Never Cry Wolf,* Farley had replied, "Doug, I don't bother with the facts; I just tell the truth." Later, Farley had written the foreword to *Birds of the Saskatoon Area,* in 2002, saying that it was in Saskatoon that he "first discovered birds" and simultaneously was "first discovered by the birds."

In 1924, when Hedley Horace Mitchell wrote his succinct *Catalogue of the Birds of Saskatchewan*, published as an entire issue of *Canadian Field-Naturalist* (with a few hundred copies distributed by the Saskatchewan government as a separate 18-page booklet entitled Birds of Saskatchewan),[1] he had credited Thomas Blakiston, magnetic observer with the Palliser expedition, as the first person to study birds in Saskatchewan. Mowat indignantly told me when we first met in 1946 that Mitchell had been unaware of Dr John Richardson, who had become Mowat's hero. Ably assisted by Thomas Drummond, Richardson had first described to science 14 new species or subspecies of birds from Carlton House and 10 from Cumberland House.

What an exciting three days I had with Farley in his Jeep, in place of my usual bicycle, making daily rounds to each of a dozen duck traps at the two Rousay Lakes and visiting Leech and Crescent Lakes. I took a photograph of Mowat at a Northern Harrier nest in water and we visited nests of an American Bittern and several Black-crowned Night Herons. All the while, Mowat regaled me with stories.

I had no inkling at the time that the stimulus from his visit would set up unrecognized ripples that, against all expectations or statistical odds, washed up on the beach of my existence time and time again, into my old age.

Following four years of family practice with my parents in Yorkton, I wished to improve my skills as a family practitioner. In 1955, I began additional training in the exciting new and altruistic milieu of the recently-opened University Hospital: Internal medicine under Dr. Irwin Hilliard and pediatrics under Dr John Gerrard. While there, with a wife and two small children, I received a catalogue from bookseller John Johnson in North Bennington, Vermont. Most of his used books sold for five or ten dollars, but the item that caught my attention was "Richardson, John. *Fauna Boreali-Americana, Vol. 2, the Birds*,"[2] [hereafter, *FBAm2*], in good condition, at $45. Relative to my monthly income of $150, $45 was a lot of money. It seems that none of Johnson's nearest customers whose catalogue had reached them earlier, had felt they could afford it. But Mowat had set the stage and, fortunately, I have an understanding wife.

When the precious book arrived soon after Christmas 1955, I found it even more exciting than Mowat had indicated. It seemed that I was now the owner of the only copy of the book in Saskatchewan. Mary and I were spurred to spend every second weekend studying the birds at Carlton.

I also studied the extent to which Joseph Sabine, in his Appendix to Franklin's first journey in 1823,[3] missed describing valid new species and how he compounded the felony by usurping credit that Richardson would otherwise have earned. I also noted which species lost their taxonomic priority through the nearly two-year delay caused by William Swainson's attempts to force bird classification into the soon-discredited Quinary classification -- which wasted 129 pages in the 501-page *FBAm2*. On the positive side, William Swainson had introduced in 1820 the use of lithographic techniques for depicting birds which allowed "a more lifelike depiction of plumage, ... increased the accuracy, ... [and was] considerably less expensive."[4] For *FBAm2*, Swainson wrote descriptions of some of the new species and painted 50 colour plates of birds.

Mary and I returned from Yorkton on 30 December 1956 to take the first of two Christmas Bird Counts at Carlton, to see what changes had occurred in winter bird life since Richardson's visits there in 1820 and 1827. Three cars containing four birders from Prince Albert, five from Saskatoon and two from Yorkton gathered to amass 13 ½ hours on foot and 13 hours by car and record 643 individuals of 20 species. The following winter, Margaret Belcher from Regina, three birders from Saskatoon and two from Yorkton, recorded 15 species on 29 December 1957. Later, In 1969, we took the relatively new winter road to Cumberland House, to join Dr Stan Riome and his son David of Nipawin, with Doug Whitfield, my two youngest sons, and Raymond Bisha. We did 25 miles by car and 32 miles with Carriere dog teams and recorded 14 species. On 2 January 1971, we had Vern Gunnlaugson and Stan Shadick with us, again with

Dr Riome, and did 6 miles by foot and 27 miles by car, sighting 21 species.

These CBCs have a double Mowat connection. He had not only aroused my interest in taking CBCs at former Richardson haunts at Carlton and Cumberland House, but when he was a 14-year old grade nine student Mowat undertook the first-ever Saskatoon CBC with his school chum, Bruce Billings. Their Christmas Bird Count on December 22, 1935 recorded 37 birds of 8 species during five miles' travel on foot and three miles by dog-sled, south of the city. The next winter the same two covered nine miles south along the river, partly on snowshoes and partly by dog-team, and saw 144 individuals of 11 bird species. Both of Mowat's counts were published in the *Canadian Field-Naturalist* and in the *Blue Jay.*

Saskatchewan's Golden Jubilee Year, 1955, saw the realization of the long-term dream of a new provincial museum building, officially opened by Governor General Vincent Massey on 18 May. It was the culmination of years of competent preparation by the first three museum directors, "the three Freds": Bradshaw in 1928, Dunk in 1935 and Bard in 1947,[5] together with gentle but persistent reminders to government from the young Saskatchewan Natural History Society (SNHS). The million-dollar building was even larger than we had dared hope for, but our reminders had convinced Premier Tommy Douglas to make this building the government's most tangible jubilee gift "dedicated to the honour of all the Pioneers who came from many lands to settle in this part of Canada."[6] With the new building came the appointment of Doctor Bob Nero as assistant director.[7]

Nero soon proposed what seemed improbable to local naturalists. He proposed the new museum building as an ideal location for an annual meeting of the august ornithological group which had never yet met in western Canada. The Saskatchewan delegation to the AOU meeting in Denver, Colorado in September 1956, to present a formal "attractive invitation" to a Regina meeting in 1959, consisted of Bob Nero, George Ledingham, Bernie Gollop and Stuart and Mary Houston. I gave a talk describing the birds of Carlton in the 1820s.[8]

The first American Ornithologists' Union meeting in Western Canada began in Regina 26 August 1959. Part of the registration package was an autographed copy of

Birds of the Saskatchewan River, Carlton to Cumberland, which had appeared in print five days before.[9] In it, I had compared the bird life in the 1820s and 1850s with that of a hundred years later. Maurice Street's provision of his lifetime bird records for the Nipawin area, with more nests found by a single observer than for any other area of that size in Canada, made him an equal contributor. I gave a talk about Richardson's assistant naturalist, Thomas Drummond. The meeting had a high attendance of 391, including a much-larger-than-average local area attendance of 112 from Saskatchewan and a keen group of teen-age birders.[10]

I soon arranged with the Museum of Natural History in London, England, to make photographic copies (before the days of electrostatic copies) of the sequential pages of *The Ibis* which contained the bird observations of Thomas Blakiston, magnetic observer with Palliser in 1857-1859.[11] Most of Blakiston's bird studies, like those of Richardson, were made at Carlton House. Blakiston's collections and observations, also prior to Caucasian settlement, corroborated those of three decades earlier Richardson and his assistant naturalist, Thomas Drummond.

When Mary and I visited the Hudson's Bay Company Archives (HBCA) in Winnipeg, she shared equally in the transcription and editing. We wore white gloves when transcribing the original fur trading post journals (today, one is given a microfilm instead). This was possible only because Dr Bill Ewart had in 1964 initiated the campaign to have these precious records repatriated to Canada; the transfer was finally made in 1974.[12] Had these journals remained at the Hudson's Bay Company headquarters in London, England, we would not have felt able to afford so much time there. We checked the journals for each fur trading post visited by Richardson, Douglas, and Drummond, and noted arrival dates of Canada Geese each spring.

In 1966, I attended the International Congress of Ornithology in Oxford. With my wife and Margaret Belcher, my sister-in-law, our family spent two weeks following the trail of John Richardson around Britain from Dumfries and Gosport to the Lake Country. More detailed sleuthing was yet to come.

I next achieved what should have been impossible. I located in turn the unpublished diaries of Franklin's three officers. Through Ruth Horlick, whose maiden name was Hood, I learned that Robert Hood's journal and paintings were owned by a descendant in Surrey, BC. In 1819, when painted by Hood, five of those bird species had not yet been described to science! [13] Next I learned through Dr Robert Johnson that John Richardson's unpublished diary had been purchased at auction in London and was now in the rare book room at the University of Illinois at Champaign-Urbana. Librarian Mary Ceibert, a 1935 graduate of the University of Saskatchewan, greeted us with open arms and with small piles of published Richardsoniana.[14] The final officer's journals, George Back's, we located at the McCord Museum in Montreal and the Scott Polar Research Institute In Cambridge, England, but Back's original paintings, unknown to academe, had been secretly deposited in a safe deposit vault out in Stroud, Gloucestershire. The three journals and the two sets of artist's paintings were published at ten-year intervals (Houston 1974, 1984, 1994).

The most interesting aspects of our searches are chronicled in pages xxvi to xxv in the final volume of my arctic trilogy.[15] Enthusiasm, coupled with a "digging instinct," allowed a doctor-naturalist to find and publish all three journals. The indifference of professional historians had left the field wide open. The reward: Without taking any classes and without paying tuition, I was awarded a D. Litt. degree from the University of Saskatchewan in 1987, even before *Arctic Artist* appeared in print. The degree was bestowed on me at convocation by my colleague, Dr Sylvia Fedoruk, who by then was the University chancellor. [She told me that I must hug her during the rehearsal, but not on stage.] I wrote the definitive assessment of Richardson's ornithological achievements for the Nuttall Society's third volume dealing with North American ornithology history.[16] I also assisted Richard Davis of the University of Calgary with his editing of the extant journals written by Captain John Franklin himself on the first two expeditions.[17] (Davis 1995, 1999). These various studies occupied much time, intermittently, for over fifty years.

Through editing the original handwritten diaries of Franklin's three officers, during the First Franklin Arctic Land Expedition, I had put together Richardson's "dates and places," some of which were not previously available in any single source. On occasion, such dates allow one for the first time to understand the whereabouts of important specimens. Even though the story of the first Latin names given to new species may prove boring to some general readers, they were part of Mowat's original goal. When *Blue Jay* readers purchase the two-volume *Birds of Saskatchewan,* a year or more from now, I predict the number of times the names of Richardson, Hood or Drummond appear will be a revelation to many. For this I give thanks to Farley.

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Corrigendum *- the 9 bottom rows of this table were omitted from Clarke J, Tokaruk M (2015) Avian Biodiversity In An Urban Park: Breeding Birds Of The Habitat Conservation Area (2010-2014)* Blue Jay *73(3):123-132*

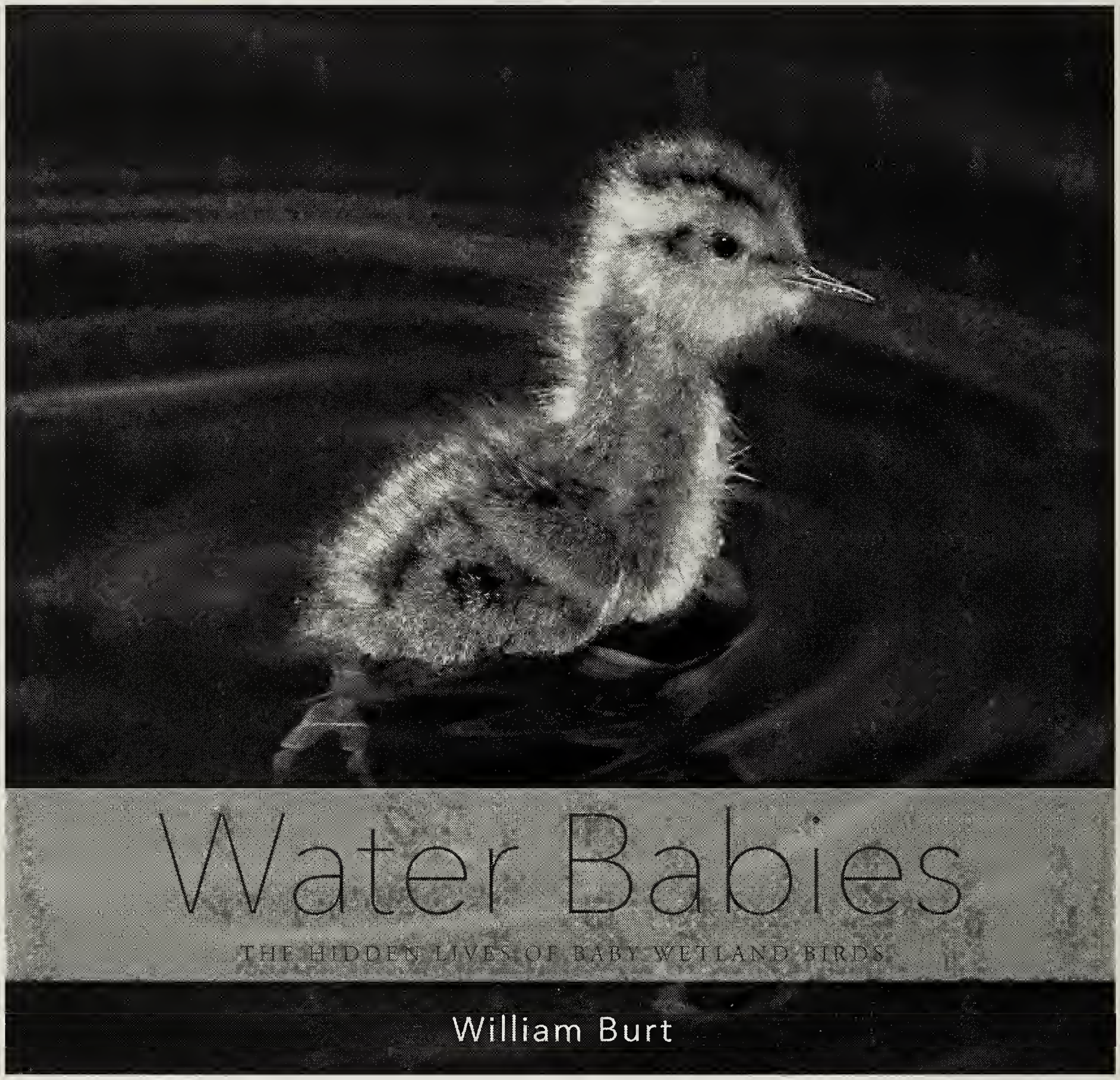
Table 1. Based on observations during the Wascana MAPS program (2010-2014), species breeding status was assessed for each year as a Confirmed Breeder (B), Likely Breeder (LB), Transient (T), or not recorded (-). Species were assigned a cumulative Breeding Status, if they breed within the Wascana MAPS site every year (Breeder, B), >1/2 of all years, but not all (Occasional Breeder, O), or <1/2 of all years (Unusual Breeder, U). The total number of nests located by nest searching in 2013 and 2014 is also presented. *Brown-headed Cowbird nests were those of other birds with cowbird eggs present.

		Wascana MAPS Breeding Status						**Nest searching**	
Species	**4-letter code**	**2010**	**2011**	**2012**	**2013**	**2014**	**Cumulative Breeding Status**	**Total nests 2013**	**Total nests 2014**
American Goldfinch	AMGO	B	B	B	B	B	**B**	3	3
American Robin	AMRO	B	B	B	B	B	**B**	2	2
American Wigeon	AMWI	B	B	B	B	B	**B**	1	1
Brown Thrasher	BRTH	B	B	B	B	B	**B**	0	0
Brown-headed Cowbird	BHCO	B	B	B	B	B	**B**	4	6
Canada Goose	CANG	L	B	B	B	L	**B**	1	0
Cedar Waxwing	CEDW	B	B	B	B	B	**B**	4	10
Clay-coloured Sparrow	CCSP	B	B	B	B	B	**B**	3	7
Common Grackle	COGR	B	B	L	B	L	**B**	1	1
Common Yellowthroat	COYE	B	B	B	B	B	**B**	2	0
Eastern Kingbird	EAKI	B	B	B	B	B	**B**	3	2
Gray Catbird	GRCA	B	B	B	B	B	**B**	3	2
House Wren	HOWR	B	L	B	B	B	**B**	0	0
Least Flycatcher	LEFL	B	B	B	B	B	**B**	0	1
Mallard	MALL	B	B	B	B	B	**B**	8	5
Mourning Dove	MODO	L	L	B	B	B	**B**	5	4
Northern Flicker	NOFL	B	B	L	L	L	**B**	0	0
Red-winged Blackbird	RWBL	B	B	B	B	B	**B**	5	2
Song Sparrow	SOSP	B	B	B	B	B	**B**	0	0
Sora	SORA	B	B	B	L	B	**B**	0	0
Tree Swallow	TRES	L	B	L	L	L	**B**	0	0
Warbling Vireo	WAVI	L	B	B	B	B	**B**	0	0
Western Kingbird	WEKI	B	B	B	B	B	**B**	2	1
Yellow Warbler	YEWA	B	B	B	B	B	**B**	7	16
Baltimore Oriole	BAOR	-	B	B	B	B	**U**	1	1
Blue-winged Teal	BWTE	T	B	B	B	L	**U**	1	0
Gadwall	GADW	B	B	T	B	B	**U**	1	2
House Finch	HOFI	-	L	T	L	L	**U**	0	0
Marsh Wren	MAWR	B	L	B	B	-	**U**	0	0
Nelson's Sparrow	NESP	L	-	-	B	B	**U**	0	1
Yellow-headed Blackbird	YHBL	B	B	T	B	-	**U**	1	0
Bobolink	BOBO	-	-	B	B	-	**O**	0	0
Canvasback	CANV	-	T	B	T	T	**O**	0	0
Chipping Sparrow	CHSP	B	T	T	T	T	**O**	0	0
Eared Grebe	EAGR	B	-	T	T	-	**O**	0	0
Gray Partridge	GRPA	T	-	T	B	B	**O**	0	0
North Pintail	NOPI	-	-	-	-	B	**O**	0	2
Savannah Sparrow	SAVS	-	-	-	-	L	**O**	0	0
Sedge Wren	SEWR	-	-	B	B	-	**O**	1	0
Trail's Flycatcher	TRFL	T	T	T	B	T	**O**	0	0
Total								55	63

BOOK REVIEWS

Water Babies - Review by Philip S. Taylor

Water Babies – The hidden lives of baby wetland birds. William Burt. The Countryman Press a division of W. W. Norton & Co. New York, N. Y., 2015. 205pp. 23X24cm.



In *Water Babies* William Burt offers us an intimate glimpse into the earliest days in the lives of birds linked to water and wetland habitats; a time that is fleetingly short and of necessity shrouded in secrecy. Through stunning photographs and notes drawn from his personal experiences we learn details about families of birds from the swamps of Florida to the prairie wetlands of Saskatchewan and north to the Arctic tundra of Churchill, Manitoba and Alaska. Forty-two species of grebes, egrets, herons, geese, ducks, mud hens, gulls, terns, jaegers, shorebirds and bitterns are treated. As a bonus, Burt generously shares his experiences and tips on how to safely photograph birds while placing their well being first.

Books covering this topic are few and even "*A guide to the nests, eggs and nestlings of North American birds*" by Paul Baicich and Colin Harrison (Second edition 1997) is nearly 20 years old, and does not illustrate all the very young chicks or downies of our bird species. Burt's book is not a field guide but rather an expedition of discovery into the lives of very young birds which he'd never seen. In seven chapters we are treated to, as he puts it, "a whole new catalogue of creatures and challenges enough to last a lifetime". Nearly half of the species covered were photographed wholly or partly in Canada. Luckily for us he finds Saskatchewan one of his "favorite of all places on earth". At Crane and Chaplin lakes he captured images of breeding Eared, Western, Pied-billed and Red-necked grebes, Franklin's Gulls, American Coot, Ruddy Ducks, American Widgeon, American Avocets and Wilson's Phalaropes. At Churchill, downy shorebirds were the highlight: American Golden and Semipalmated plovers, Whimbrel, Least Sandpipers, Dunlin, Short-billed Dowitchers, Red-necked Phalaropes plus Canada Geese, and Arctic Terns. In both provinces the author enlisted the help of biologists to find and photograph baby birds safely – a measure of his great concern for the wellbeing of his subjects and a high standard worth emulating by all nature photographers. His third Canadian stop was to photograph Northern Gannets on Bonaventure Island, Quebec.

Accompanying the photographs, many which are best classed as art, is a text full of anecdotes and important natural history facts which touch on key conservation issues of today. We learn details of the insults water birds have experienced from over exploitation by humans for food and fine feathers. And how, unfortunately, even today's strong regulations do not protect sensitive colonial nesting water birds from ignorance. Burt relates a story where a Hollywood director ordered a charge of dynamite be detonated in a southern swamp to cause birds to "fly and prettify a sequence for his movie" – the birds rose and kept flying, never to return. We read about bottlebrush down, so effective in creating camouflage for some tundra shorebirds. We visit the "slums of bird-dom" and see downy grebes engaged in eating feathers – a trait of the tribe. Burt was fortunate to have Roger Tory Peterson as an early and direct mentor who shared his curiosity, love and respect for birds with the author.

This book covering such a unique subject succeeds on several levels. The high quality photos are matched with knowledgeable prose – not something easily achieved. The text is clean and error free. I found some inconsistencies in the Index, for example: not all species referred to in the text are listed (seabirds on p121), and one species with a photo lacks its scientific name (long-tailed duck). But these are minor quibbles which do not detract from the book's high quality. William Burt's *Water Babies* would make an excellent gift and will find an appreciative audience in homes of birders, naturalists and photographers.

MUSHROOM SERIES

RESPECT, DON'T RIDICULE, THE RUSSULAS

CHRIS HAY Email: *chris.r.j.hay@gmail.com*

Go into the woods and pick a basket of mushrooms. I can almost guarantee at least one of them will be a species of the genus *Russula*. They are major ectomycorrhizal partners with the roots of trees in coniferous and deciduous forests around the world. It's no surprise then that their mushrooms are commonly encountered popping up from beneath litter across the forest floor. I can't think of a season I haven't seen one.

It's pretty easy to tell if your mushroom is a *Russula* sp. Once you get to know them you will recognize them by sight. It is difficult to describe just what makes them so characteristic. The cap colours can range from deep shades of red, orange, yellow, purple, or green, to plain browns or off whites. The etymology of their name is from Latin *russus* for "red", the striking cap colour many of them exhibit. Their gills are white to yellow and somewhat thick, and their stems are rigid and white except for a few that have a red blush applied to the outer surface. Under the microscope, their spores are covered with (beautiful) warty ornamentations.

But to a novice mushroomer, I suggest breaking your *Russula* apart to fully experience the properties of its flesh. They are often incredibly fragile, particularly the gills that crumble apart upon handling (hence the common name "brittle gills"). Their stems will snap cleanly like a piece of chalk, unlike other mushroom stems that are usually fibrous and stringy. The skin on the surface of the cap can often be peeled off (to some degree), leaving you with a translucent membrane between your thumb and forefinger.

Actually, *Russula* species are kind of a joke amongst mushroomers. They are kicked, punched, stomped, thrown, or otherwise utterly destroyed on forays – "oh, another JAR" ("Just Another Russula").[1] Another saying goes, "throw your mushroom against a tree, if it explodes it is a Russula". They are so common and fragile they are basically asking for it. Another factor against this group is the difficulty in identifying them to species. It can prove to be an incredibly frustrating endeavor, and reading about the countless hours mycologists have spent trying to distinguish these species is downright depressing (see

Kuo 2009[2] – probably the most hopeless article on mushrooms I've ever read).

The problem is that while your *Russula* specimen may seem distinct, the range of characters permissible within each species is very wide, so your collection may be any one of these. Take colour of the cap for example (easy, right?). Many species exhibit some range of cap colours (ex. red to orange to orange-brown) and some species such as *R. xerampelina* can vary widely: usually red to dark red, purple, or brownish-olive, but sometimes outright green, brown, yellow-brown, purple-brown, or anything in between.[1] Even if your species is less variable, the cap colours on any *Russula* will fade and change with weathering and can become misleading. Other features such as degree of peelability of the cap's skin, taste of a piece on the tongue (bitter to mild to spicy hot), shade of spore print, and wartiness of the spores can exhibit a range of degrees. That and there are about 750 species out there.[3] The difficulty is compounded across field guides with differing species descriptions and online reports where identifications may be incorrect, making information on distributions and ecology unreliable.

All of that said, let it be known I do not encourage violence towards any such friendly creatures as these mushrooms! There is no harm to the fungal organism itself (the main body – the network of hyphae – is safe underground) but we should cultivate in our minds a respect and appreciation for these interesting and important organisms. In addition to their being important for the health of our forests as ectomycorrhizals, they are home to insect larvae and serve as food for squirrels and deer. Another fungus, *Hypomyces lactifluorum*, grows on *Russula brevipes* and produces the "lobster mushroom", which is bright orange and has a unique pimply texture. Do you know *Monotropa uniflora* (aka ghost plant, Indian pipes, corpse plant)? It's a weird white plant (no chlorophyll) that is a mycoheterotroph – getting its energy by parasitizing fungi who are mycorrhizal with trees (ultimately obtaining energy from other plants). Anyway, it has been found to exclusively form relationships with fungi from the family Russulaceae, mostly *Russula* spp.[4]

There are a few species commonly mentioned in field guides that wouldn't hurt to learn. You may encounter them, or at least be able to say you have something that could be these species or is very similar. *Russula emetica* has a red cap and white gills and stalk. Chewing on a small edge of the cap with gills will produce a strong acrid (hot peppery) sensation in your mouth (spit and rinse afterward! The name is appropriate for its emetic properties). *R. sanguinea* (a European name probably incorrectly applied to many of our species) is similar to *R. emetica* except for having stalks tinged pink or red. *R. lutea* is one of a few common yellow-capped species you may find. To distinguish from other yellow ones be sure to test for the acrid taste and if the inner flesh bruises ashy gray after handling (and how quickly this reaction occurs). *R. xerampelina* can exhibit a range of colours (as described earlier) but has a distinct fishy smell and is fairly common. Green-capped species are often identified as *R. virescens*, but this is exclusive to Europe. So far in North America we know there are several species in this "virescens-crustosa" group, but their precise features and names have mostly not yet been determined.[5] *R. crustosa* differs from *R. virescens* by the attractive quilted pattern on the cap surface. There are several other names around for other olive to greenish species.

Go forth into the forests and find Russula mushrooms! Explore their fragility, tastes, and colours. Put them side-by-side and create a rainbow spectrum. Maybe even try to identify them. This is one genus of mushrooms I hope you never forget.

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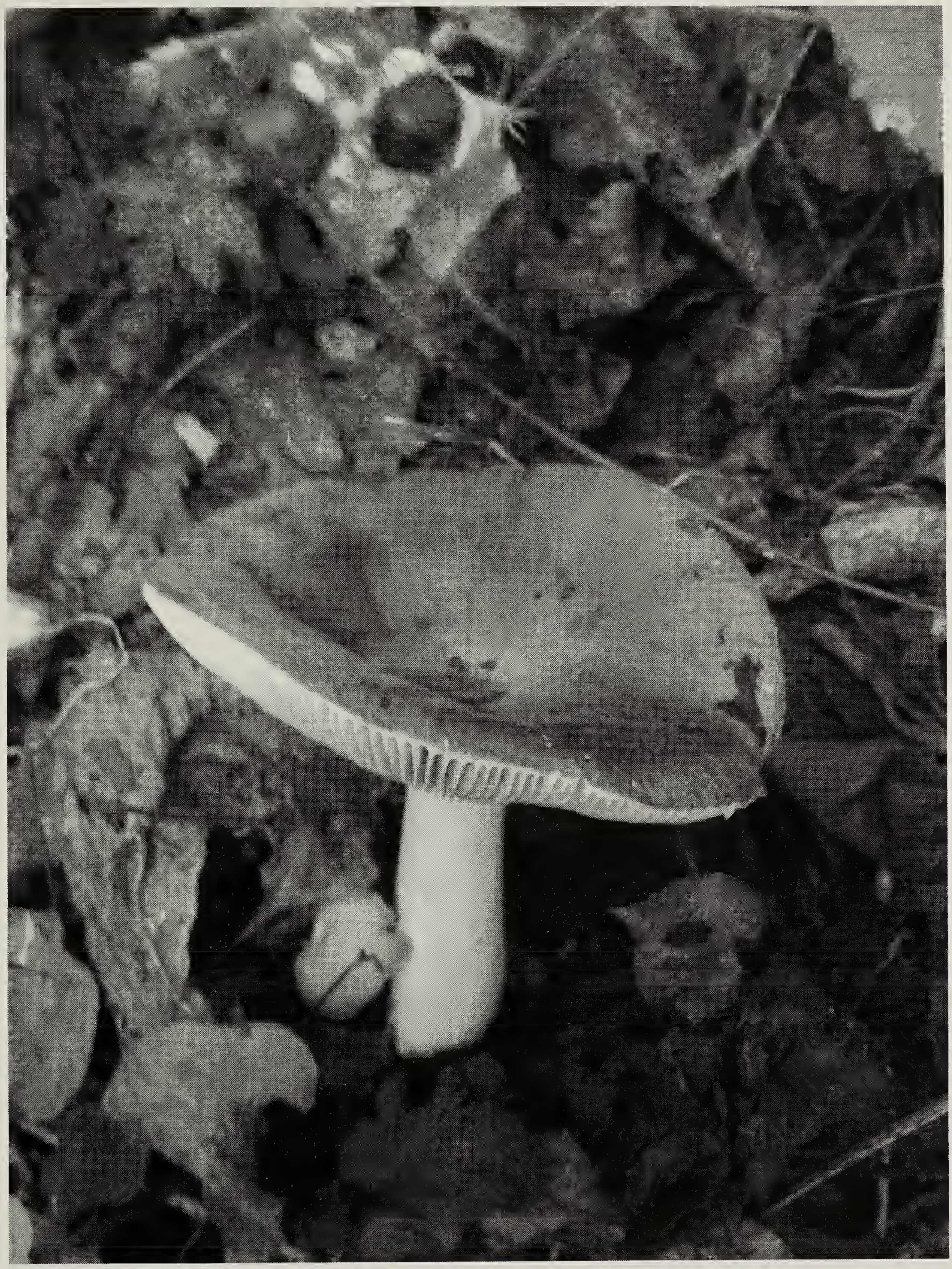


A typical Russula *sp. found in a small aspen forest in Grasslands National Park, SK; 2013. This specimen has a white stem, yellow gills, and a purple-brown cap.* *- Chris Hay*

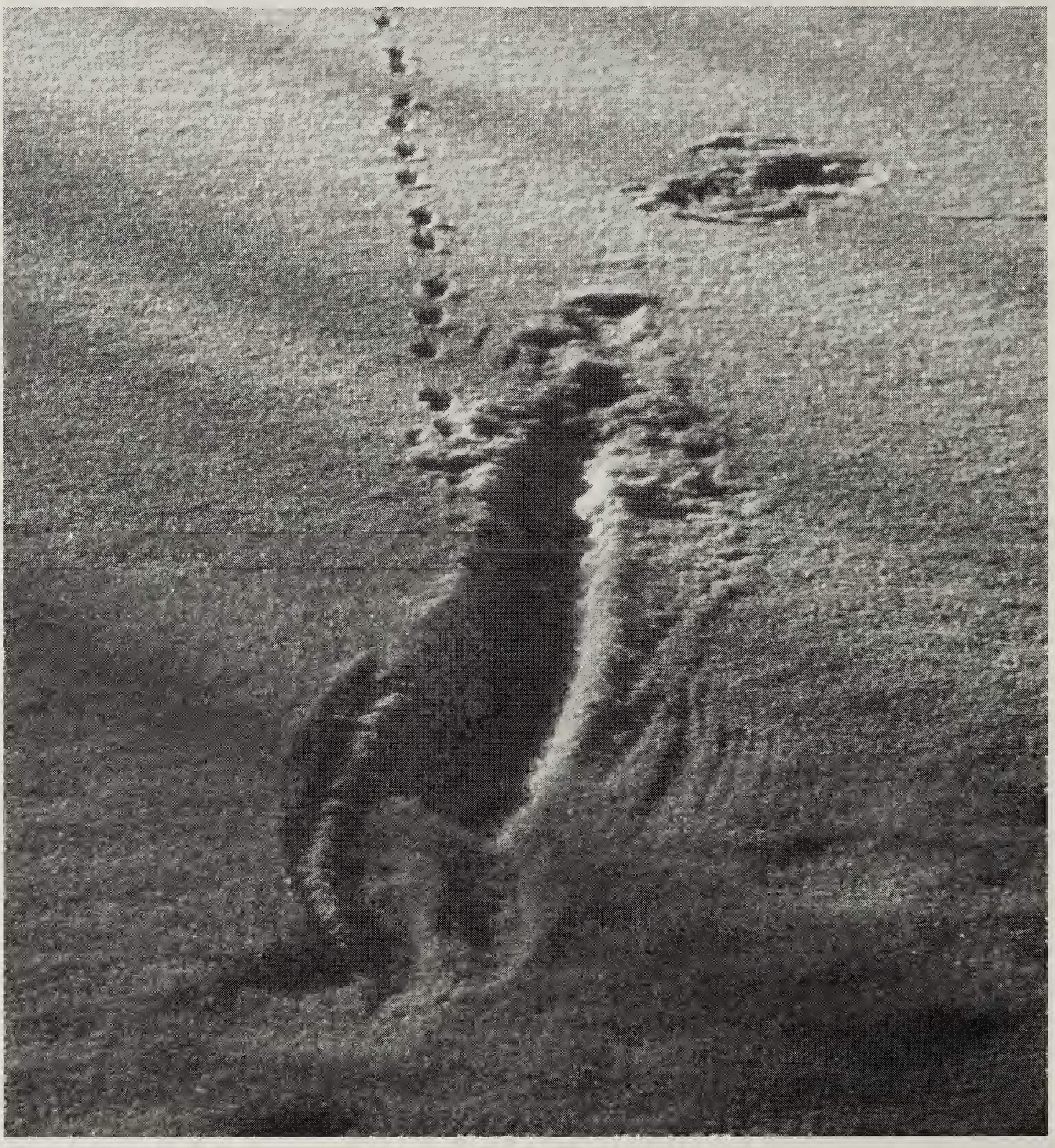
MYSTERY PHOTO

September 2015 Mystery Photo:

Our mystery photo is submitted by Blue Jay reader D. Larson.

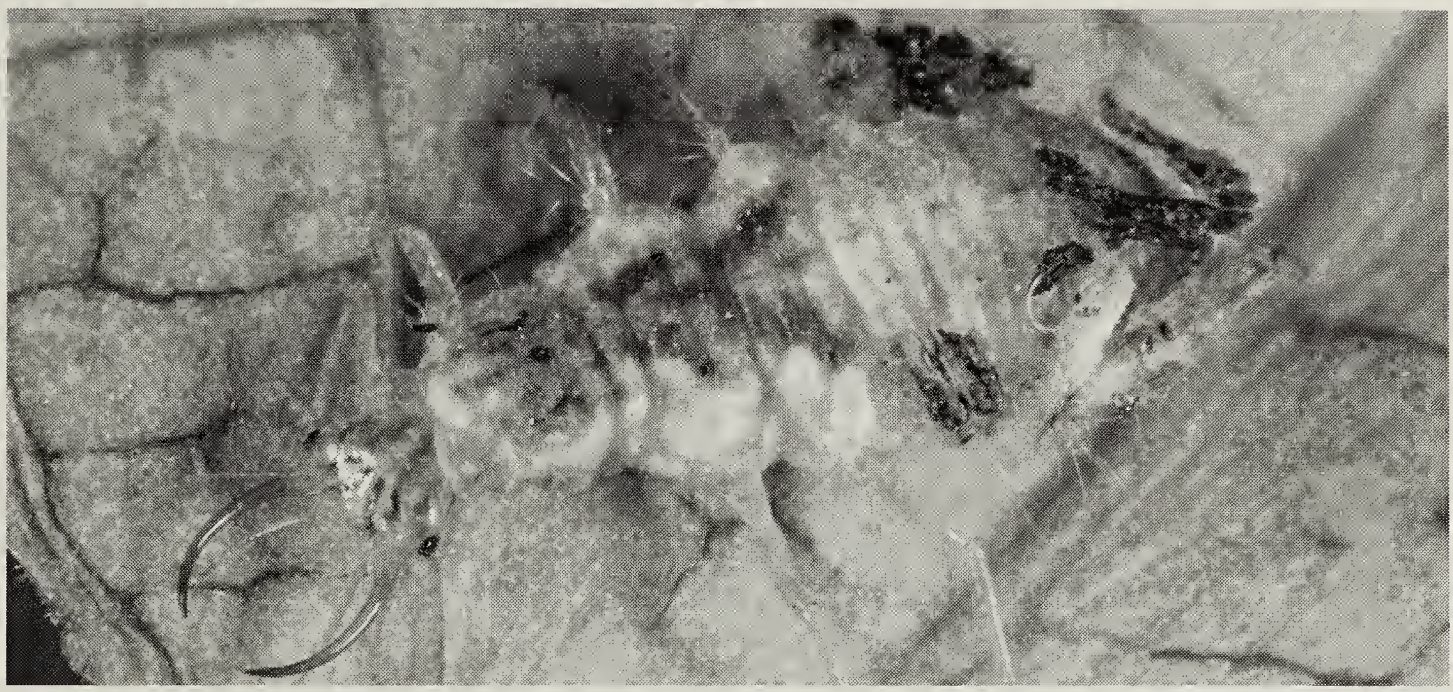
The questions are: What happened here? What made these tracks?

Please send your answers to the Blue Jay editors:
bluejay@naturesask.ca
Correct answers will be entered into a draw for a prize from Nature Sask.



December Mystery Photo *- D Larson*

September 2015 Mystery Photo Answer:

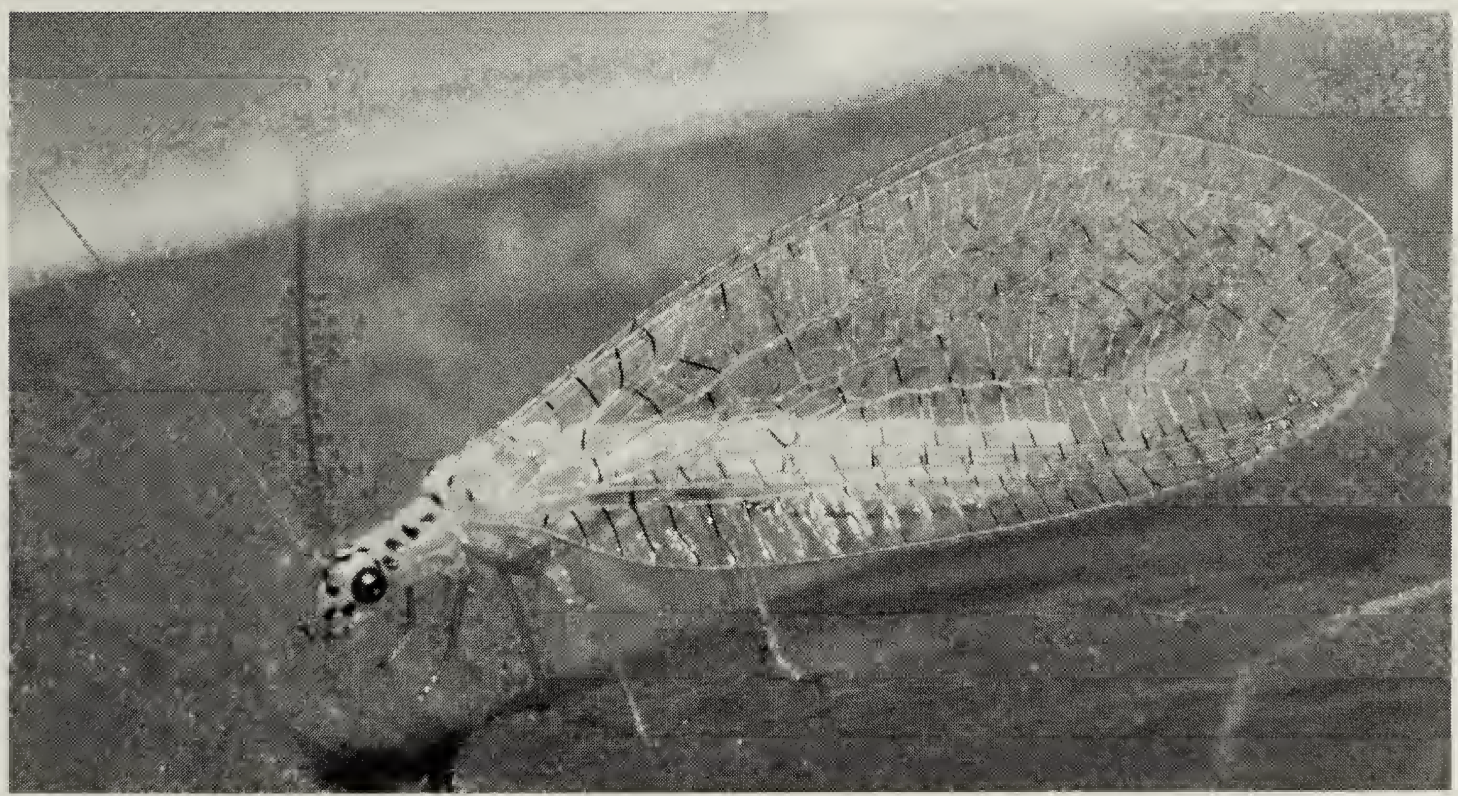


Green Lacewing larva - *Harvey Schmidt*

Green Lacewing - *Chrysopa chi*

In the summer when you see a delicate-looking bug fluttering about it's probably a Green Lacewing. Sometimes if you're lucky they will land on you. I found this one flying over the lawn back in June. The weather was pretty strange this summer but there seemed to be a more than normal amount of them in our yard. One day, while filling the bird feeder, I noticed tiny lacewing eggs hanging from a willow twig. I wasn't lucky enough to see them hatch, but I did manage to find one of the larva.

- *Harvey Schmidt*



Green Lacewing adult - *Harvey Schmidt*

BLUE JAY INDEX 2015 (VOLUME 73)

2015 Index to Authors and Illustrators

Artuso, Christian. Photo. Mississippi kite chick March inside back cover; Great-tailed grackle 166
Artuso, Christian and Rudolf Koes. Exceptional Manitoba Bird Records 26-33
Brigham, Anne. Photo. June Mystery photo 96, June back cover, 147
Budyk, Gary. Photo. Eurasian tree sparrow March inside back cover; Calliope hummingbird 162; Black-throated gray warbler 163 top
Burt, William. Photo. Eared grebe and chick from Water Babies December front cover; Reproduced cover of the Water Babies book 198
Clarke, Jared. Photo. Common yellowthroat nest September inside front cover top, 130; American goldfinch chicks September inside front cover bottom; Clay-colored sparrow nest 129; Least flycatcher nest 131
Clarke, Jared and Matthew Tokaruk. Avian Biodiversity in an Urban Park: Breeding Birds of the Habitat Conservation Area (2010-2014) 123-131; corrigendum 197
_____________ Wascana Centre Habitat Conservation Area nest locations, map 127, 128
Dale, Brenda. Index to Volume 73 206-217
Dance, Doug. Photo. Painted bunting December inside front cover, 165
Dawson, Russell D. Frequency of Nest Visits by Non-resident Hatch-year Tree Swallows 133-138
de Vries, Bernard. A Preliminary Report of the Lichen Flora in a Proposed Lichen Sanctuary South of Estevan, Saskatchewan 62-68
_____ Photo. Proposed lichen preserve 68
Diakuw, Gale. ‘White’ American Coot, note 141-142
_____ Photo. American coots 141
Dickson, Ross. Cedar Waxwings with Orange Tail Tips, note 183
_____Photo. Cedar waxwing tails 183, December inside back cover bottom
Edkins, Tera. Bullsnake Enjoying a Meal, note 140
_____ Photo. Bullsnake 140, September outside back cover
Edmonds, Randi. See Smith, Alan R.
Guercio, Amanda. Photo. MacGillivray’s warbler 30, March back cover, 163 bottom
Gupta, Charu. See Kricsfalusy, Vladimir V.
Haga, May. Photo. Thirteen-lined ground squirrel June top inside front cover; Red admiral June bottom inside front cover; Cedar waxwing September front cover, December inside back cover top; Tree swallow 132
Hay, Chris. Inky Caps, note 52-55
_____ Respect, don’t ridicule, the Russalas, note 200-203
_____ Stars of the Ground – the Earthstars, note 143-145
_____ The Wonderful World of Waxcaps, note 89-91
_____ Photo. Young Tippler’s Bane (*Coprinopsis atramentaria*) 54; *Hygrocbye conica* fruiting bodies 91, June inside back cover top; *Geastrum quadrifidum* 143, September inside back cover top; typical *Russala* sp. 203

Hecker, Kerry and Lowell Strauss. Editor's Note 154
Hecker, Kerry. Photo. March Mystery photo 56, 97; waxcaps in prairie June inside back cover bottom
Hjertaas, Dale G. and Paule Hjertaas. Three Observations of Colour Banded Shorebirds 155-158
Hjertaas, Paule. Photo. Banded pectoral sandpiper 157; Banded Hudsonian godwit 158
Houston, C. Stuart. How Farley Mowat Changed My Life, note 188-196
_____ Interesting Nipawin Area Bird Nests, note 85-86
_____ Photo. Houston enjoying reading Mowat book 189
_____ See Nelson, E. Charles; Oystryk, Leslie M.
Klassen, Raymond. Photo. Black vulture 27
Koes, Rudolf. See Artuso, Christian
Koes, Rudolf F. Additions to the Manitoba Bird List (2008-2014) 159-167
Kornelsen, Jonathan and Cary Hamel. Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed 168-182
_________ Photo. Site 1 - forest interior 173; Site 2 -oxbow and river bank 174; Site 3 – interior, edge and river 175; Site 4 – forest interior 176; Site 5 – forest interior 177
_________ Whitemouth river watershed with site locations, map 169
Kricsfalusy, Vladimir V. Photo. Prairie crocus 104, September inside back cover bottom
Kricsfalusy, Vladimir V., Meng Li, and Charu Gupta. Using Multiple Data Sources on Species Distribution for Biodiversity assessment: the Prairie Crocus (*Anemone patens*) as a case study 102-122
_____ Collecting Intensity of *Anemone patens,* graph 108; Distribution, map 110; Density, map 111; Habitat affinities, graph 114
Larson, D. Photo. December Mystery Photo 204
Li, Ming. See Kricsfalusy, Vladimir V.
Loran, Dan. Cliff Swallows are Gathering Mud, photo note 87-88
_____ Photo. Qu'Appelle Valley 87; Cement bridge 87; Cliff swallows gathering mud 88 top and bottom;
Loyd, Michael. Photo. Mississippi kite 29, 33, 160 bottom
McCullough, Randy. Photo. Coyote 35; Pronghorn 41; Raccoon 43; Ruddy ducks 51; *Fomitopsis pinicola* 57
Manikel, Joy Snydal. Photo. Black-throated sparrow March inside front cover, 31, 164
Marchand, Kelsey A., Christopher M. Somers and Ray G. Poulin. Sightings of Non-native Red-eared Sliders in Wascana Marsh, Regina, Saskatchewan, note 186-187
Marchand, Kelsey. Photo. Red-eared slider vs western painted turtle December inside front cover top, 187
Massey, Nia. Photo. Tufted duck 160 top
Mierau, Dale. Observations of Bald Eagles on Lac La Ronge in 2014, photo essay 69-84
_____ Photo. Bald eagle June front cover; Bald eagle family 71; Three year old

Bald eagle 73; Adult and fledgling Bald eagle 74; 75; Bald eagle posturing 77; Bald eagle male fledgling 78, 81; Bald eagle fledglings 79; Bald eagle adult and young 80; Bald eagle hatchling 82; Bald eagle female fledgling

_____ Map. 2014 Nest Sites, 70

Nelson, E. Charles and C. Stuart Houston. In Memorium: Horace Hedley Mitchell (1868-1953), note 92-95

Oystryk, Leslie M. and C. Stuart Houston. Overlooked Records of Raccoons in Saskatchewan 42-44

Poulin, Ray G. See Marchand, Kelsey

Rothenberger, Jamie and Tex Rothenberger. Observation of a Brown Thrasher Nest (*Toxostoma rufum*) on Stationary Farm Equipment, note 184-185

___________ Photo. Brown thrasher nest with eggs 184; location of nest in farm machinery 185

Rothenberger, Tex. See Rothenberger, Jamie

Rumancik, Jennifer. Photo. 2013 Disk water-hyssop site 46

Saunder, Heather. Photo. Snowy Inky Cap (*Coprinopsis nivea*) 53

Scott, Lorne. Regarding September 2014 Blue Jay, note 50

Schmidt, Harvey. September 2015 Mystery Photo Answer, note 205

_____Photo. September Mystery Photo 146; Green lacewing larvae 205 top; Green lacewing adult 205 bottom, December back cover

Sealy, Spencer G. June 2015 Mystery Photo answer, note 147-149

_____ Photo. American coot 148; two downy rail specimens 149

Smith, Alan R. 42nd Annual Saskatchewan Mammal – 2014 34-41

_____ Map. Saskatchewan-Location of 2014 counts 24

Smith, Alan R. and Randi Edmonds. 73rd Annual Saskatchewan Christmas Bird Count – 2014 2-25

Somers, Christopher M. See Marchand, Kelsey

Stauffer, Dick. Photo. Communal tree swallows at nest box 138

Stiles, Donald J. and William P. Taylor. Newly Fledged Tree Swallows which Visited other Nestboxes, note 139

Strauss, Lowell. Photo. Mule deer March front cover

Taylor, Philip S. Book review. Water Babies. BURT 198-199

Taylor, William P. See Stiles, Donald J.

Tokaruk, Matthew. See Clarke, Jared

Vinge-Mazer, Sarah. First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan 45-49

_____ Photo. Disk Water-Hyssop (*Bacopa rotundifolia*): detail of the flower March inside front cover, 45

2015 Subject Index

Birds

Banding and Tagging

Three observations of colour banded shorebirds HJERTAAS HJERTAAS 155-158

Behaviour

Frequency of Nest Visits by Non-resident Hatch-year Tree Swallows DAWSON 133-138

Newly Fledged Tree Swallows Which Visited Other Nestboxes STILES TAYLOR 139

Biodiversity

Avian Biodiversity in an Urban Park: Breeding Birds of the Habitat Conservation Area (2010-2014) CLARKE TOKARUK 123-131; corrigendum 197

Breeding Records and Distribution

Avian Biodiversity in an Urban Park: Breeding Birds of the Habitat Conservation Area (2010-2014) CLARKE TOKARUK 123-131

Counts, Surveys and Lists

73rd Annual Saskatchewan Christmas Bird Count – 2014 SMITH, EDMONDS 2-25

Avian Biodiversity in an Urban Park: Breeding Birds of the Habitat Conservation Area (2010-2014) CLARKE TOKARUK 123-131

Diet and Feeding

Cedar waxwings with orange tail tips DICKSON 183

Movements

Three observations of colour banded shorebirds HJERTAAS HJERTAAS 155-158

Nests and Nesting

Avian Biodiversity in an Urban Park: Breeding Birds of the Habitat Conservation Area (2010-2014) CLARKE TOKARUK 123-131

Frequency of Nest Visits by Non-resident Hatch-year Tree Swallows DAWSON 133-138

Interesting Nipawin Area Bird Nests HOUSTON 85-86

Newly Fledged Tree Swallows Which Visited Other Nestboxes STILES TAYLOR 139

Observation of a Brown Thrasher nest (*Toxostoma rufum*) on stationary farm equipment ROTHENBERGER ROTHENBERGER 184-185

Observations of Bald Eagles on Lac La Ronge in 2014 MIERAU 69-84

Numbers

Regarding September 2014 Blue Jay SCOTT 50

Particular Species

Alphabetical list of species presented in: Interesting Nipawin Area Bird Nests HOUSTON 85-86 Boreal chickadee, Brewer's blackbird, Canada warbler, clay-colored sparrow, common grackle, common loon, eastern kingbird, gray catbird, mallard

Bunting, painted

Additions to the Manitoba Bird List (2008-2014) KOES 159-167

Coot, American
    'White' American Coot DIAKUW 141
Cormorant, Neotropic (hypothetical)
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Duck, tufted
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Eagle, bald
    Observations of Bald Eagles on Lac La Ronge in 2014 MIERAU 69-84
Godwit, Hudsonian
    Three observations of colour banded shorebirds HJERTAAS HJERTAAS 155-158
Grackle, great-tailed
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Hummingbird, calliope
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Kite, Mississippi
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
    Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Kite, swallow-tailed
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
    Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Loon, yellow-billed
    Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Plover, Piping
    Three observations of colour banded shorebirds HJERTAAS HJERTAAS 155-158
Sandpiper, Pectoral
    Three observations of colour banded shorebirds HJERTAAS HJERTAAS 155-158
Sparrow, black-throated
    Additions to the Manitoba Bird List (2008-2014) KOES 159-167
    Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Sparrow, Eurasian tree
    Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Swallow, cliff
    Cliff swallows are gathering mud LORAN 87-88
Swallow, tree
    Frequency of Nest Visits by Non-resident Hatch-year Tree Swallows DAWSON 133-138
    Newly Fledged Tree Swallows Which Visited Other Nestboxes STILES TAYLOR 139
Thrasher, Brown
    Observation of a Brown Thrasher nest (*Toxostoma rufum*) on stationary farm equipment ROTHENBERGER ROTHENBERGER 184-185
Vulture, black
    Exceptional Manitoba Bird Records ARTUSO, KOES 26-33

Warbler, black-throated gray
Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Warbler, MacGillivray's
Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Waxwing, cedar
Cedar waxwings with orange tail tips DICKSON 183
Rarities
Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
'White' American Coot DIAKUW 141
British Columbia
Prince George
Frequency of Nest Visits by Non-resident Hatch-year Tree Swallows DAWSON 133-138
Conservation
Programs and Projects
A preliminary report of the lichen flora in a proposed lichen sanctuary south of Estevan Saskatchewan DE VRIES 62-68
Fungi
Description
Caps, inky
Inky Caps Hay 52-55
Earthstars
Stars of the Ground – the Earthstars HAY 143-145
Russulas
Respect don't ridicule the Russulas HAY 200-204
Waxcaps
The Wonderful World of Waxcaps HAY 89-91
Particular species
Caps, inky
Inky Caps Hay 52-55
Earthstars
Stars of the Ground – the Earthstars HAY 143-145
Russulas
Respect don't ridicule the Russulas HAY 200-204
Waxcaps
The Wonderful World of Waxcaps HAY 89-91
Humans
Awareness of Nature and Conservation
How Farley Mowat Changed my Life HOUSTON 188-196
In Memoriam
Horace Hedley Mitchell (1868-1953) NELSON HOUSTON 92-95
Insects
Particular Species
Lacewing, green
Answer to September Mystery photo SCHMIDT 205

Lichens
Counts, Surveys and Lists
A preliminary report of the lichen flora in a proposed lichen sanctuary south of Estevan Saskatchewan DE VRIES 62-68
Particular Species
Alphabetical list of species presented in: A preliminary report of the lichen flora in a proposed lichen sanctuary south of Estevan Saskatchewan DE VRIES 62-68 *Acarospora strigata, Amadinea punctata, Aspicillia cinerea, Caloplaca cerina, Caloplaca holocarpa, Caloplaca trachyphylla, Candelariella aurella, Candelariella terrigena, Candelariella vitellina, Circinnaria contorta, Cladonia poccilum, Cladonia pyxidata, Dimelaena oreina, Diploschistes muscorum, Endocarpon pusillum, Fulgensia bracteata, Glypholecia scabra, Lecanora hagenii,Lecanora muralis, Lecidea tesselata, Melanelia cfr. disjuncta, Placidium cfr. lacinulatum, Psora decipiens, Rhizoplaca chrysoleuca, Rhizoplaca melanophthalma, Rhizoplaca peltata, Xanthoparmelia chlorochroa, Xanthoparmelia mexicana, Xanthoparmelia wyomingica, Xanthoria elegans*

Mammals
Particular Species
Raccoon
Overlooked Records of Raccoons in Saskatchewan OYSTRYK HOUSTON 42-44
Manitoba
Additions to the Manitoba Bird List (2008-2014) KOES 159-167
Exceptional Manitoba Bird Records ARTUSO, KOES 26-33
Whitemouth River Watershed
Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed KORNELSEN HAMEL168-182
Mystery Photos (answers to)
December 2014 57
March 97
June SEALY 147-149
September SCHMIDT 205
Nature Library
Water Babies- Review TAYLOR 198-199
Nature Saskatchewan
Publications – Blue Jay
Editor's note HECKER STRAUSS 154
Index to Volume 73 DALE 206 - 217
Sanctuaries
A preliminary report of the lichen flora in a proposed lichen sanctuary south of Estevan Saskatchewan DE VRIES 62-68
Plants
Biodiversity
Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed KORNELSEN

HAMEL168-182
Using Multiple Data Sources on Species Distribution for Biodiversity Assessment: The Prairie Crocus (*Anemone patens*) as a Case Study KRICSFALUSY LI GUPTA 102-122

Counts, Surveys and Lists
Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed KORNELSEN HAMEL168-182
Using Multiple Data Sources on Species Distribution for Biodiversity Assessment: The Prairie Crocus (*Anemone patens*) as a Case Study KRICSFALUSY LI GUPTA 102-122

Description
First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan VINGE-MAZER 45-49

Endangered and Declining Species
First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan VINGE-MAZER 45-49

Flowering Records and Distribution
First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan VINGE-MAZER 45-49
Using Multiple Data Sources on Species Distribution for Biodiversity Assessment: The Prairie Crocus (*Anemone patens*) as a Case Study KRICSFALUSY LI GUPTA 102-122

Habitat
Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed KORNELSEN HAMEL168-182

Particular Taxa
Alphabetical list of species presented in: Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed KORNELSEN HAMEL168-182 *Acer negundo*, *Fraxinus nigra*, *Fraxinus pennsylvanica*, *Picea glauca*, *Populus balsamifera*, *Populus tremuloides*, *Ulmus americana*
Crocus, prairie
Using Multiple Data Sources on Species Distribution for Biodiversity Assessment: The Prairie Crocus (*Anemone patens*) as a Case Study KRICSFALUSY LI GUPTA 102-122
Water-hyssop, disk
First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan VINGE-MAZER 45-49

Rarities
First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan VINGE-MAZER 45-49

Study Techniques
Observations of High Quality Eastern Deciduous Riparian Sites in Southeast Manitoba's Whitemouth River Watershed KORNELSEN HAMEL168-182

Reptiles
- ***Description***
  - Sightings of Non-native Red-eared Sliders in Wascana Marsh, Regina, Saskatchewan MARCHAND SOMERS POULIN 186-187
- ***Distribution***
  - Bullsnake Enjoying a Meal EDKINS 140
- ***Invasive Species***
  - Sightings of Non-native Red-eared Sliders in Wascana Marsh, Regina, Saskatchewan MARCHAND SOMERS POULIN 186-187
- ***Movement***
  - Bullsnake Enjoying a Meal EDKINS 140
- ***Particular species***
  - Bullsnake
    - Bullsnake Enjoying a Meal EDKINS 140
  - Slider, red-eared
  - Sightings of Non-native Red-eared Sliders in Wascana Marsh, Regina, Saskatchewan MARCHAND SOMERS POULIN 186-187
  - Turtle, western painted
  - Sightings of Non-native Red-eared Sliders in Wascana Marsh, Regina, Saskatchewan MARCHAND SOMERS POULIN 186-187

Saskatchewan
- First Report of Disk Water-Hyssop (*Bacopa rotundifolia* (Michx.) Wettst.) in Saskatchewan VINGE-MAZER 45-49
- Overlooked Records of Raccoons in Saskatchewan OYSTRYK, HOUSTON 42-44
- ***Estevan***
  - A preliminary report of the lichen flora in a proposed lichen sanctuary south of Estevan Saskatchewan DE VRIES 62-68
- ***Lac La Ronge***
  - Observations of Bald Eagles on Lac La Ronge in 2014 MIERAU 69-84
- ***Nipawin***
  - Interesting Nipawin Area Bird Nests HOUSTON 85-86
- ***Qu'Appelle Valley***
  - Cliff swallows are gathering mud LORAN 87-88
- ***Regina***
  - Avian Biodiversity in an Urban Park: Breeding Birds of the Habitat Conservation Area (2010-2014) CLARKE TOKARUK 123-131
  - Sightings of Non-native Red-eared Sliders in Wascana Marsh, Regina, Saskatchewan MARCHAND SOMERS POULIN 186-187

2015 Illustration Index

All illustrations are photographs unless otherwise indicated

Birds
- ***Banding***
  - Godwit, Hudsonian: HJERTAAS 158
  - Sandpiper, pectoral: HJERTAAS 157
- ***Counts, Surveys and Lists***
  - Saskatchewan Christmas Bird Count 2014 locations: map, SMITH 24

Diet
Waxwing, cedar: tail tips DICKSON 183
Nests and Nesting
Bald eagle nests: MIERAU 71, 75, 77, 80, 82; nest site map 70
Flycatcher, least: CLARKE 131
Goldfinch, American: CLARKE September inside front cover bottom
Map of 2013 Wascana Centre nests: CLARKE TOKARUK 127
Map of 2014 Wascana Centre nests: CLARKE TOKARUK 128
Sparrow, clay-colored: CLARKE 129
Thrasher, brown: ROTHENBERGER ROTHENBERGER 184; nest site in machinery 185
Yellowthroat, common: CLARKE September inside front cover top 130
Particular Species
Bunting, painted: DANCE December inside front cover bottom, 165
Coot, American: DIAKUW 141; SEALY 148
Duck, ruddy: MCCULLOCH 51
Duck, tufted: MASSEY 160
Eagle, bald: MIERAU June front cover; family 71; Three year old 73; Adult and fledgling 74, 75; Posturing 77; Male fledgling 78, 81; Fledglings 79; Adult and young 80; Hatchling 82; Female fledgling; map, 70
Godwit, Hudsonian: HJERTAAS 158
Goldfinch, American: chicks CLARKE September inside front cover bottom
Grackle, great-tailed: ARTUSO 166
Grebe, chick: BURT 198
Grebe, eared: BURT December front cover
Hummingbird, calliope: BUDYK 162
Kite, Mississippi: LOYD 29; in tree LOYD 33; ARTUSO March inside back cover, 160 bottom
Rail, Virginia: SEALY 149
Sandpiper, pectoral: HJERTAAS 157
Sora: SEALY 149
Sparrow, black-throated: MANIKEL March inside front cover, 31
Sparrow, Eurasian tree: NO CREDIT 32; BUDYK March inside back cover
Swallow, cliff: LORAN 88 top and bottom
Swallow, tree: HAGA 132; STAUFFER 138
Thrasher, brown: ROTHENBERGER ROTHENBERGER 184, 185
Vulture, black: KLASSEN 27;
Warbler, black-throated gray: BUDYK 163
Warbler, MacGillivray's: GUERCIO 30, March back cover, 163
Waxwing, cedar HAGA September front cover, December inside back cover; tail tips DICKSON 183
Yellowthroat, common: nest CLARKE September inside front cover top, 130
Rarities
Bunting, painted: DANCE December inside front cover bottom, 165
Duck, tufted: MASSEY 160

Grackle, great-tailed: ARTUSO 166
Hummingbird, calliope: BUDYK 162
Kite, Mississippi: LOYD 29; in tree LOYD 33; ARTUSO March inside back cover
Sparrow, black-throated: MANIKEL March inside front cover, 31
Sparrow, Eurasian tree: NO CREDIT 32; BUDYK March inside back cover
Vulture, black: KLASSEN 27;
Warbler, black-throated gray: BUDYK 163
Warbler, MacGillivray's: GUERCIO 30, March back cover
Butterflies
Particular species
Admiral, red: HAGA June bottom inside front cover
Fungi
Particular species
Caps, Inky: Snowy inky cap (*Coprinopsis nivea*) SAUNDER 53; Young tippler's bane (*Coprinopsis atramentaria*) HAY 54
Fomitopsis pinicola: answer to December 2014 Mystery Photo MCCULLOCH 57
Geastrum quadrifdum: HAY 143, September inside back cover top
Hygrocybe conica: HAY 91, June inside back cover top
Russula, sp.: HAY 203
Waxcap: HECKER JUNE inside back cover bottom
Humans
Awareness of Nature and Conservation
Houston, Stuart: HOUSTON enjoying Farley Mowat book 189
Insects
Particular species
Lacewing, green: SCHMIDT larvae 205 top; Adult 205 bottom, December back cover
Lichens
Proposed reserve: DE VRIES 68
Mammals
Particular Species
Deer, mule: STRAUSS March front cover; HECKER 97
Raccoon: MCCULLOCH 43
Squirrel, thirteen-lined ground: HAGA June top inside front cover
Manitoba
River, Whitemouth: KORNELSEN HAMEL site location in watershed, map 169
Mystery Photos
March HECKER 56
June BRIGHAM 96, June back outside cover
September SCHMIDT 146
December LARSON 204
Mystery Photos (answers to)
December 2014 MCCULLOCH 57
March 2015 HECKER 97

June 2015 BRIGHAM 147; SEALY 148, 149
September 2015 SCHMIDT 205

Nature Library
Book Review: Reproduction of cover of Water Babies BURT 198

Plants
Description
Water-hyssop, disk (*Bacopa rotundifolia*): detail of the flower, VINGE-MAZER March inside front cover, 45
Flowering Records and Distribution
Crocus, prairie (*Anemone patens*): map, KRICSFALUSY LI GUPTA distribution 110, density 111
Habitat
Crocus, prairie (*Anemone patens*): graph, KRICSFALUSY LI GUPTA 114
Deciduous, eastern riparian: KORNELSEN HAMEL Site 1 - forest interior 173; Site 2 -oxbow and river bank 174; Site 3 – interior, edge and river 175; Site 4 – forest interior 176; Site 5 – forest interior 177
Water-hyssop, disk (*Bacopa rotundifolia*): site, RUMANCIK 46; habitat, VINGE-MAZER 47 top and bottom
Particular Taxa
Crocus, prairie (*Anemone patens*): KRICSFALUSY 104, September inside back cover bottom; graph KRICSFALUSY LI GUPTA 108, 110, 111, 114
Water-hyssop, disk (*Bacopa rotundifolia*): detail of the flower, VINGE-MAZER March inside front cover, 45; site, RUMANCIK 46; habitat, VINGE-MAZER 47 top and bottom
Rarities
Water-hyssop, disk (*Bacopa rotundifolia*): detail of the flower, VINGE-MAZER March inside front cover, 45; site, RUMANCIK 46; habitat, VINGE-MAZER 47 top and bottom

Reptiles
Description
Slider, red-eared: MARCHAND December inside front cover top, 187
Turtle, western painted: MARCHAND December inside front cover top, 187
Particular species
Bullsnake: EDKINS September back cover, 140
Slider, red-eared: MARCHAND December inside front cover top, 187
Turtle, western painted: MARCHAND December inside front cover top, 187

Saskatchewan
Saskatchewan Christmas Bird Count 2014 locations: map, SMITH 24
Estevan: Proposed reserve: DE VRIES 68
Qu'Appelle Valley: View of valley LORAN 87 top; Old cement bridge LORAN 87 bottom
Regina (Wascana Centre): maps of nests CLARKE TOKARUK 127, 128

Blue Jay, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by **Nature Saskatchewan, 206-1860 Lorne Street, Regina, Saskatchewan S4P 2L7.**

CN ISSN 0006-5099

Editors: Kerry Hecker and Lowell Strauss P.O. Box 247 Simpson, SK S0G 4M0
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Associate Editors: Mark Brigham, Marlene Evans, Vernon Harms, Stuart Houston, Josef Schmutz, Carol Scott.

EDITORIAL INFORMATION: Blue Jay welcomes all submissions, preferably by E-mail (although hand-written or typed manuscripts will be considered), polished or in need of some editorial assistance. All items for publication should be sent to the editors electronically by E-mail or on CD, or hard copies (in duplicate) may be sent by mail to the editors at the address above. Electronic submissions should only be submitted in Microsoft Word. Submission deadlines are 1 January (for the March issue), 1 April (for June), 1 July (for September), and 1 October (for December). For detailed information, see the "Guidelines for Authors" in Blue Jay Vol. 68 (2). Diether Peschken abstracts Blue Jay for Recent Ornithological Literature. Titles of Blue Jay articles are listed in BIOSIS.

Common and scientific (Latin) names are used for all species. Common bird names follow the Checklist of North American birds by the American Ornithologists' Union (7th edition, 1998); mammal names: Mammal Species of the World by Wilson & Reeder; butterfly names: The Butterflies of Canada by Layberry et al.;and names of reptiles and amphibians follow Scientific and Standard English Names of Amphibians and Reptiles of North America north of Mexico, with Comments Regarding Confidence in our understanding, Seventh Edition, SSAR Herpetological Circular No. 39. (Brian I Crother, ed.) (2012).

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Printed by Administration Centre Printing Services, Regina, SK.

THIS ORGANIZATION RECEIVES FUNDING FROM

SaskCulture
FUNDING PROVIDED BY Saskatchewan LOTTERIES

Nature SASKATCHEWAN
206-1860 Lorne Street, Regina, SK
Phone: (306) 780-9273 or
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Conservation & Education Manager	Lacey Weekes
Species at Risk Manager	Melissa Ranalli
Office Coordinator	Rebecca Quist
Habitat Stewardship Coordinator (Operation Burrowing Owl)	Kaytlyn Burrows
Habitat Stewardship Coordinator (Shrubs for Shrikes/Plovers on Shore)	Rebecca Magnus
Last Mountain Bird Observatory	Alan Smith
Nature Quest	John Murray
Inner Nature	Jeanne Corrigal
Plantwatch Saskatchewan Coordinator	Lacey Weekes
Turkey Vulture Tracking	Stuart Houston

CONTACTS FOR LOCAL SOCIETIES & AFFILIATES

Fort Qu´Appelle Natural History Society	Keith Stephens
Friends of Wascana Marsh	Lorne Scott
Indian Head Natural History Society	Irv Escott
Kelsey Ecological Society	Kathleen Pitt
Nature Moose Jaw	Lorna Arnold
Nature Prince Albert	Jim Bahr
Nature Regina	Dale Hjertaas
Neudorf Nature Trails & Wild Bird Sanctuary Society	Keith Gerstner
Saskatoon Nature Society	Martin Stoffell
Southwest Naturalists	Norma Hain
Weyburn Nature Society	Val Thomas (Sec.)
Yellowhead Flyway Birding Trail Association	Martin Phillips
Yorkton Natural History Society	Geoff Rushowick
Chaplin Tourism Association	Clem Millar
Meadow Lake Woodlanders Junior Forest Wardens	Neil Marsh
Wolseley Nature Conservation Society	Richard Solberg

PUBLICATIONS

Blue Jay Editors	Kerry Hecker & Lowell Strauss
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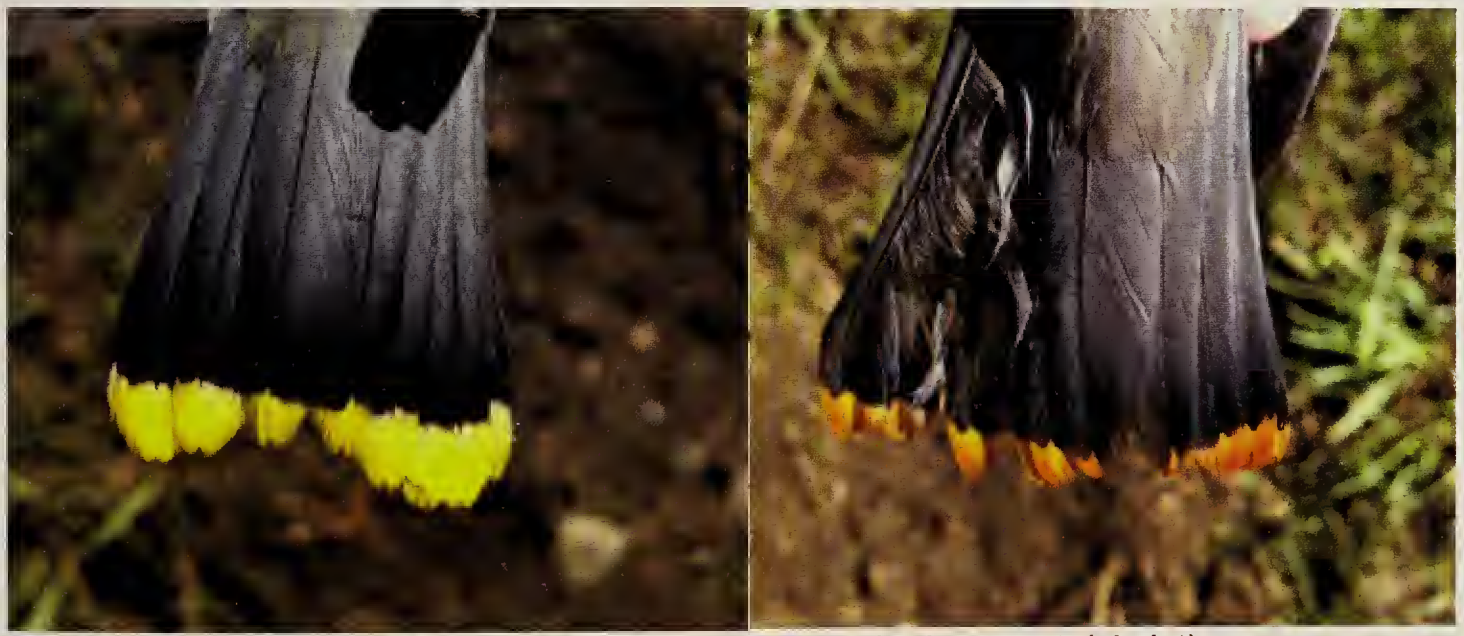
Cedar Waxwing - May Haga



Cedar Waxwing tails: typical (left) with red pigment (right)
see note page 183 - Ross Dickson

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